SEPTEMBER 1907

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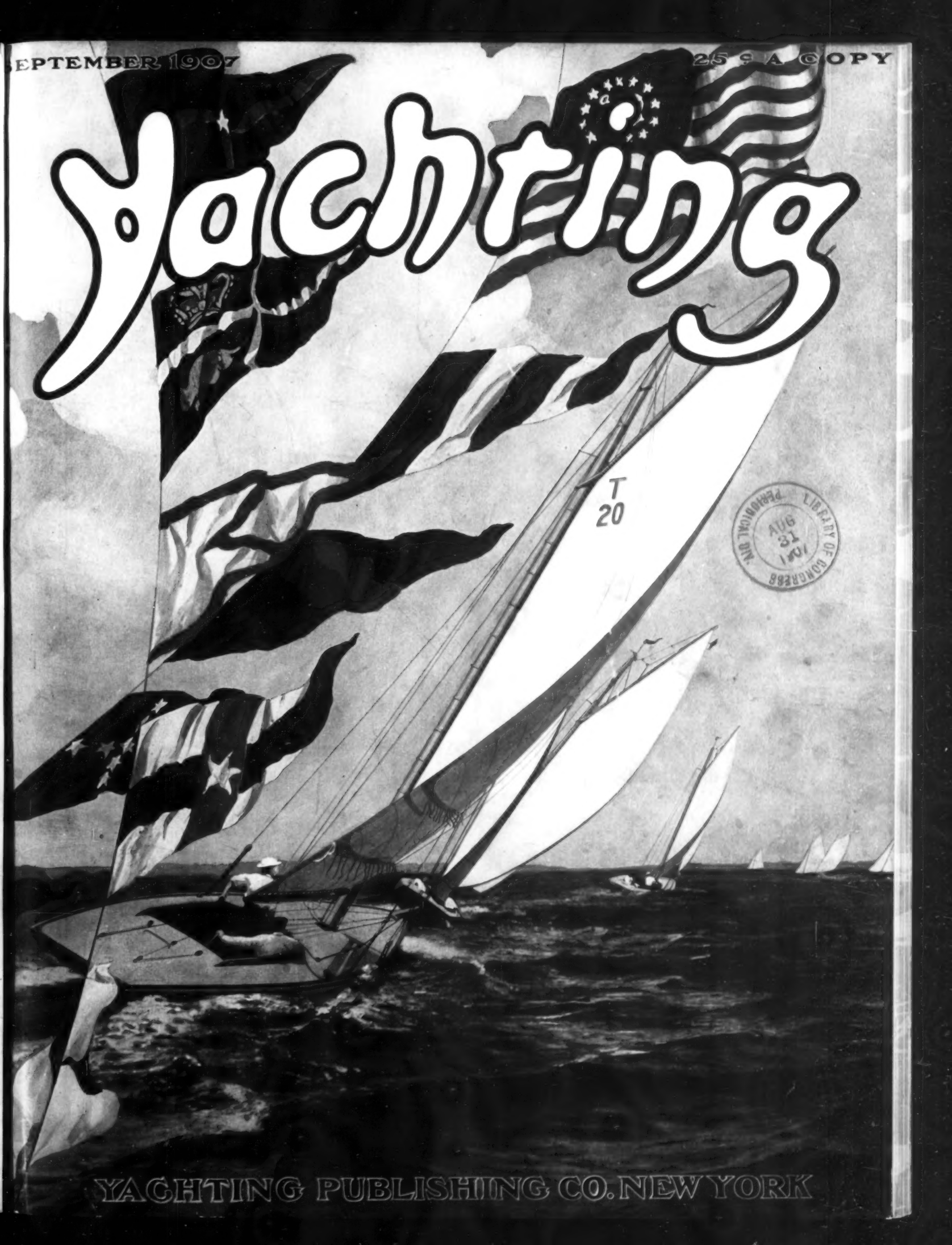

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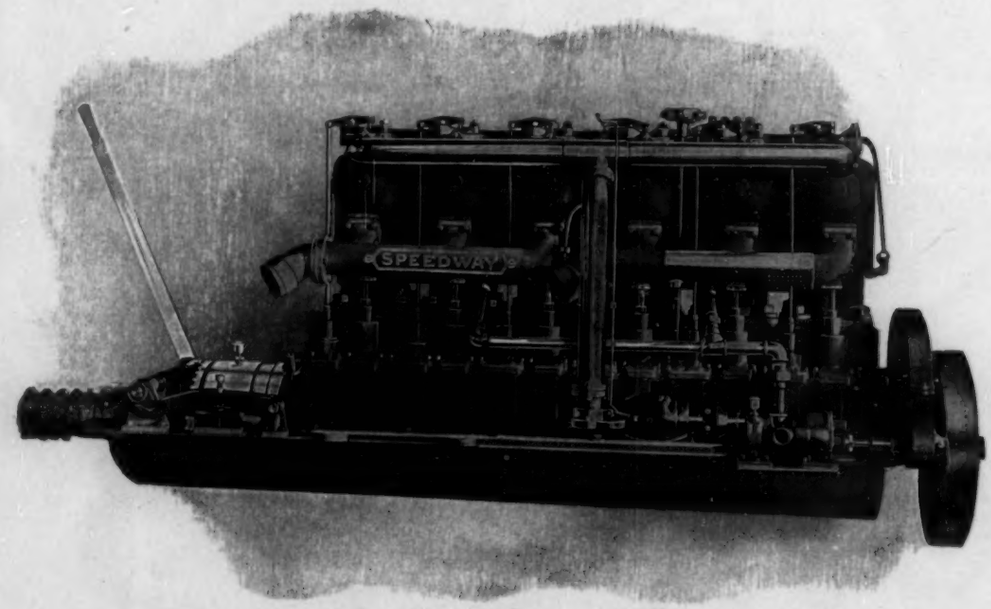

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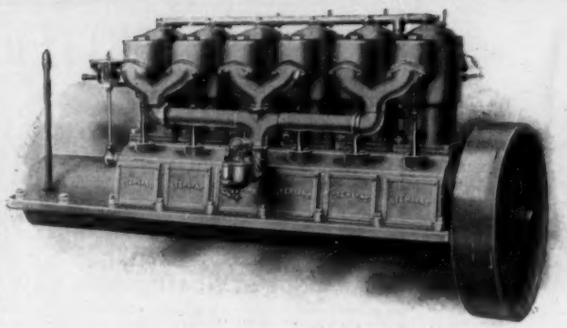

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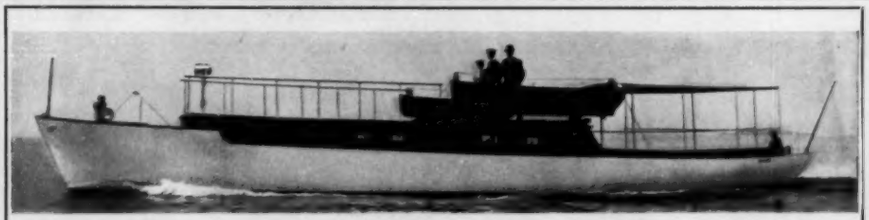

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SEPTEMBER RACING DATES.

Sept. 1.—New Rochelle Yacht Club, club cruise.
Sept. 1.—Lakewood Yacht Club, long-distance.
Sept. 1.—Chicago Yacht Club, cruising race St. Joseph to Michigan City, club event, second leg of triangle.
Sept 2.—Same, Michigan City to Chicago, final.
Sept. 2.—Western Power Boat Association at South Chicago.
Sept. 2.—Royal Canadian Yacht Club, Toronto, Prince of Wales Cup, all classes.
Sept. 2.—Lynn Yacht Club, open race, Yacht Racing Association of Massachusetts.
Sept. 2.—New Rochelle Yacht Club, club cruise.
Sept. 2.—Western Power Boat Association, at Calumet, Power Boat Club.
Sept. 2.—Norwalk Yacht Club, annual, Long Island Sound Yacht Racing Association.
Sept. 2.—Sachems Head Yacht Club, annual Long Island Sound Yacht Racing Association.
Sept. 2.—Larchmont Yacht Club, Fall Regatta.
Sept. 2.—Lakewood Yacht Club, free-for-all.
Sept. 2-9,—Jamestown Power Boat Regatta.
Sept. 3.—Corinthian Yacht Club of Marblehead.
Sept. 5.—New York Yacht Club, Autumn cups, Glen Cove.
Sept. 6-8.—Chicago Yacht Club Nutting Cup.
Sept. 7.—Jackson Park Yacht Club, Bennett Cup.
Sept. 7.—Indian Harbor Yacht Club, Fall and cruising race to Hampton Roads.
Sept. 7.—Seawanhaka-Corinthian Yacht Club, club race.
Sept. 7.—Atlantic Yacht Club, Fall Regatta.
Sept. 7.—Royal Canadian Yacht Club, Toronto, 14-foot dinghy class.
Sept. 7.—Corinthian Yacht Club of Marblehead, club race.
Sept. 8.—Dorchester Yacht Club, rendezvous Yacht Racing Association, Hull.
Sept. 11, 13, 16.—Jamestown series races for classes P. and Q. Prize for Class P. being the Roosevelt Cup.
Sept. 14.—Western Power Boat Association at Chicago, Power Boat Club.
Sept. 14.—Manhasset Bay Yacht Club, Fall Regatta, Long Island Sound Racing Association.
Sept. 14.—Larchmont Yacht Club, special.
Sept. 14.—Seawanhaka-Corinthian Yacht Club, club race.
Sept. 14.—Brooklyn Yacht Club, Fall Regatta.
Sept. 14.—Jamestown races for Chesapeake Bay "bug eyes" and canoes.
Sept. 14.—Chicago Power Boat Club.
Sept. 14.—Joint open regatta at Chicago, Jackson Park and South Shore Country Clubs.
Sept 15.—Dorchester Yacht Club, club run to Paddocks Islands.
Sept. 15.—Lakewood Yacht Club, all classes.
Sept. 17.—Jamestown, free-for-all.
Sept. 19, 21, 23.—Jamestown series races for classes H. J. and K.
Sept. 21.—Jackson Park Yacht Club, to Indian Harbor.
Sept. 21.—American Yacht Club, Fall Regatta, Long Island Sound Yacht Association.
Sept. 21.—Larchmont Yacht Club, power boats.
Sept. 21.—Seawanhaka-Corinthian Yacht Club, club race.
Sept. 21.—Atlantic Yacht Club, special.
Sept. 21.—Maumee River Yacht Club, of Toledo, motor boat cruise to West Sister Island.
Sept. 23.—Motor Boat Club of America, race week, including National Motor Boat Carnival, Club Station A., 108th Street and Hudson River.
Sept. 28.—Western Power Boat Club, at Jackson Park Yacht Club, all classes.
Sept. 28.—Bensonhurst Yacht Club, Fall Regatta
Sept. 28.—Columbia Yacht Club, cruising race to Indian Harbor, all classes and cabin power boats.
Sept. 28.—Lincoln Power Boat Club, Motor boat races, Chicago.

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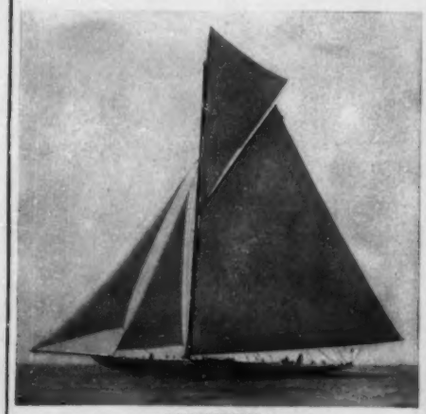

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Gasolene Queries

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Starting a Gas Engine

Motor Boat Editor, YACHTING:—I have ordered and will shortly receive a small gasolene launch (open) and would like a little information on one or two points before trying my 'prentice hand at running it. Will you please tell me how the engine can be started without cranking? I understand there is some way of starting by merely rocking the fly-wheel. How much gasolene will the engine consume ordinarily? Would it be a good plan to have an expert examine the engine occasionally to make sure that it is not suffering from my inexperience?

B. T. T.

The best way to start many small two-cycle engines is to oscillate the fly-wheel several times, back and forth over the lower center, so that the ports will be alternately covered and uncovered by the piston. This will draw gas into the cylinder and drive out the air. Then, with the ignition retarded, turn the fly-wheel sharply in the reverse of the running direction, so that the piston comes up smartly against the compression, just far enough to trip the igniter and cause the charge to ignite and send the piston back in the right direction. Be careful not to leave the ignition advance or the trick will not work. If the engine is stopped on the switch, so that the cylinder is full of gas, it can usually be started by throwing the fly-wheel around against compression without the preliminary rocking. Sometimes a shove with the foot will be sufficient, and it is often a great convenience to be able to start the motor in this way.

The exact quantity of fuel used will depend largely on the engine used and its condition as to adjustments and so on. One pint an hour for each horsepower is a fair approximation.

If you take proper care of the engine and no accidents occur, there is no necessity for expert examination. At the end of the season this might perhaps be done, but by that time you should know enough about it yourself to make expert inspection unnecessary, if you take a real interest in it.

Engine Versus Design

Motor Boat Editor, YACHTING:—Having put a gasolene engine into a twenty-five foot launch in place of a kerosene steam engine and boiler, I am disappointed to find that there is not as much increase in speed as I expected, the gasolene engine being nearly half as powerful again as the steam outfit. The wheel is just barely under water when the boat is not running but when running it is buried deep and the bow comes almost out of water.

G. S. H.

The trouble is with the design of the boat. Squatting, as the settling at the stern is called, is a characteristic of nearly all small steam launches of a few years ago, and it is a deadly enemy of speed. Once the boat begins to squat, speed cannot be much increased by adding power, as the extra power will go mainly to lift the bow and drag down the stern.

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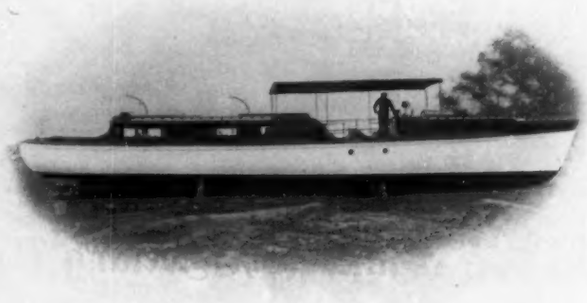

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PUBLISHERS, YACHTING.

GENTLEMEN:—As an ardent admirer of your publication I take the liberty of asking you a question or so, which should you deem it best not to answer on the ground of "business secrets," I shall apologize for my idle curiosity, and not be offended at all. At all events here are the questions which have formulated themselves in the minds of your subscriber and several of his friends who are readers of YACHTING. In a general way, how do you do it? I mean, in the first place, by what method are the beautiful illustrations reproduced in the magazine? With ordinary newspaper reproduction of photos I am tolerably familiar, and I am aware that in some measure your good results may be laid to the quality of paper. But does that tell the whole story? Are there other elements involved—treatment, printing, etc.—which are essential? What is the process?

2. Your covers—How are photographs reproduced thereon in colors? I have heard of the "three color" process. Is that YOUR process? If so why are there more than three colors in your cover designs? What is meant by "three color" process, and if the YACHTING covers are produced in that way, how are the "three colors" applied, and why are there more than three colors?

Is there any way in which you could give us our middle page pictures without pinholes? If so, what prevents you from placing them in the magazine that way. How does the magazine get way out in my city, Milwaukee, do you send it to the newsstands, or how?

Hoping you will find it convenient to answer at least a few of my interrogations, I am,

Very truly yours,
J. S. R.

The questions asked in this letter are probably in the minds of many of the readers of YACHTING and our reply will probably prove sufficiently interesting to publish here:

Mr. J. S. R., Milwaukee, Wis.

DEAR SIR:

In the first place let us say that it is always a pleasure to answer questions relating to YACHTING, the magazine, or yachting the sport. We are not so jealous of our "business secrets" as not to take our readers into our confidence.

Two elements enter into the clearness and beauty of the photographic reproductions of YACHTING. First, good cuts, by which we mean engravings that are carefully etched and prepared, and good paper with a high finish which "takes" the half tones well. Either one of these elements lacking quality would spoil the effect.

The method of making a half tone engraving consists in first photographing the picture to be reproduced through a fine glass mesh or screen, that has been cut by a diamond into a multitude of minute squares, making a negative of it. This negative is then printed on sensitized copper exactly as an ordinary print is made from a photographic negative, only the print is on copper instead of on paper. This copper plate bearing the image is then immersed in an acid bath—a solution of iron—which eats into the copper according to the degree of light and shadow appearing on it. If you will examine one of the half tones in the magazine you will notice that it is made up of innumerable dots or squares. In cuts that appear in YACHTING there are 20,625 of these dots to the square inch. These little holes being very minute, the care in etching the cut so that it is clean and sharp and also that of printing so that these holes do not get clogged, will be apparent.

Of course it is unnecessary to say that the selection of the photographs is an important consideration because poor photographs produce poor cuts, and inversely. We have made it a rule that the ordinary is not good enough, and we do not use the first pictures that come to hand. For example, we have an article in hand on The Life Savers, which is a graphic account of the United States Life Saving Service and what the government does for the protection of life in shipping. The pictures submitted with this article were good but they showed the life savers in practice only, not in the actual work of rescue. A search of the entire country failed to produce the "real thing" and the result was that we have commissioned a firm of clever photographers to get pictures during the first storm that hits our shores and puts a vessel in distress. Thus the terrible realism of the storm and rescue will be brought to our readers sitting before cosey firesides.

Another important thing in the production of attractive pages is the arrangement. This is the work of the art editor who selects the pictures and "lays them out." In this, variety of treatment must obtain and effects produced that are attractive to the eye. Thus, the half tone engraving itself, the paper, the arrangement, and not the least, the printing with careful "make ready" are interdependent and essential to the general excellence of the magazine.

In some respects the method of cover reproduction is the most interesting part of the mechanical work of YACHTING. The method we use is the "three-color process" by which we are enabled with only three printings to get a large variety of colors. To the layman it might appear that a great many colors were used, but if this were true colored covers on a magazine would be prohibitive on account of the heavy expense of printing. The principle of the three-color process is in the use of the three primary colors, yellow, red and blue, through which, by imposing one upon the other in varying strength, tints of every shade and color are obtained. In making the plates from which the covers are printed the original design is taken in hand by an artist and is colored according to life. In the engraving process through the use of so-called isocromatic screens, which accomplish the almost human task of singling out colors, each of the plates absorb, if it may be so termed, the exact color value of their part of the design and nothing else and a perfect reproduction in printing is the result.

The only way to avoid piercing our double page pictorial feature with staples in binding would be to paste in this part of the magazine. This is rather a slow process and we have thus far not felt that the value of having the double page appear without the slight mutilation of binding would offset the additional labor and delay that would be involved. If we had evidence that the majority of our readers desired to frame many of these double page pictures and in consequence were anxious that it be not mutilated, we would then feel fully justified in the slower method of binding. We would welcome from the readers of YACHTING enlightenment on this question of their desires.

The distribution of magazines to the newsstands and book stores of the country is accomplished through the medium of the American News Company which has branches in every city. These act as distributing agents in their local territories. YACHTING is sent to the News Company in bulk where it is separated into allotments and sent to their various branch houses from whence it is distributed in every direction. Thus, the circulation of the magazine is accomplished expeditiously through a trained organization that is run like clock work.

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LAWRENCE PERRY, Editor

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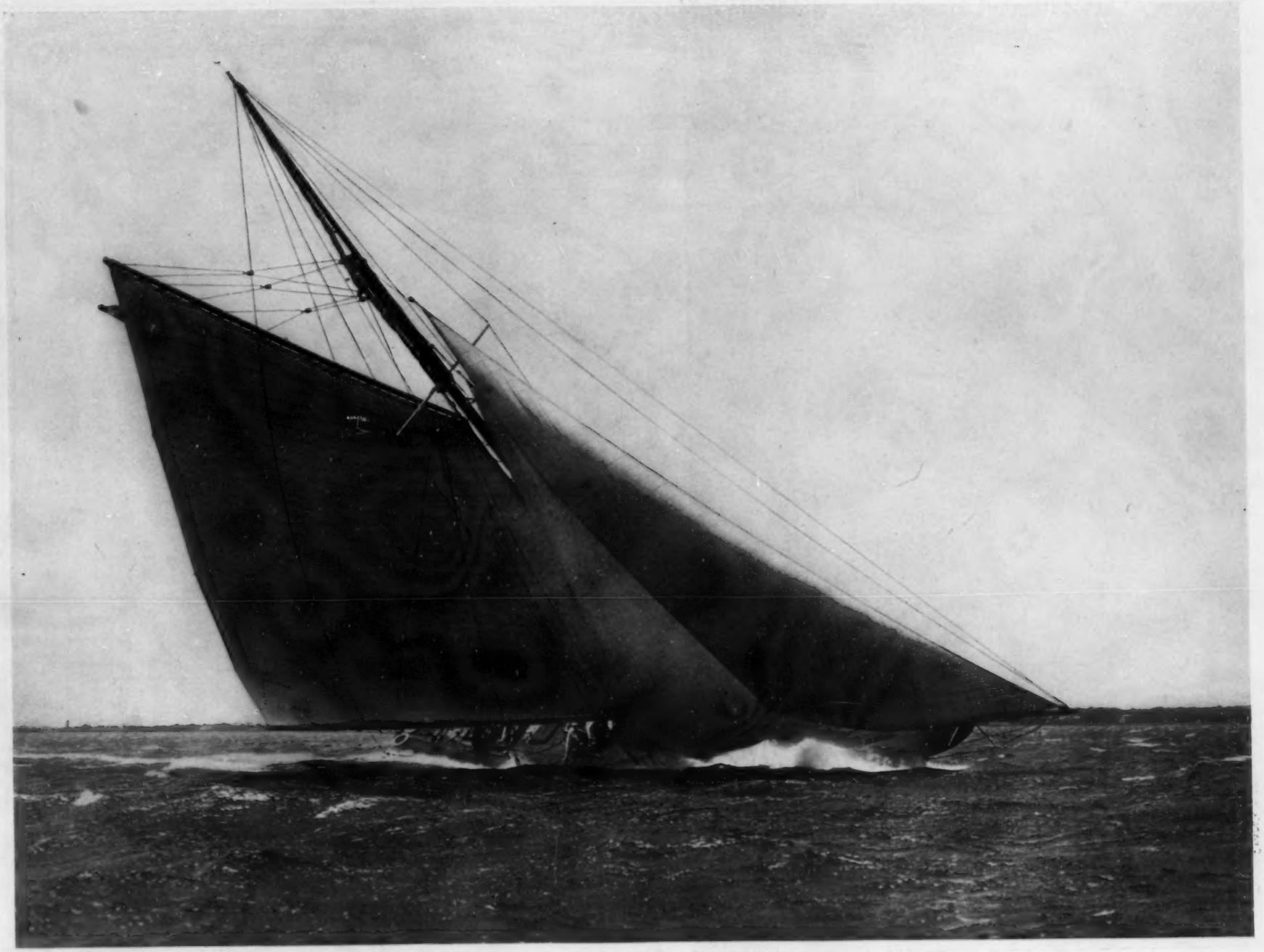

EFFORT HEELING TO A VICIOUS PUFF IN THE BLOW ON THE LAST DAY OF LARCHMONT RACE WEEK.

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YACHTING

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September, 1907

THE FLEET IN MACKINAC HARBOR.

The Mackinac Race

By J. M. HANDLEY

THE annual Mackinac Race of the Chicago Yacht Club has always brought about some sensational feature of yacht racing that is unusual, picturesque or thrilling. The fourth annual renewal furnished the contestants with a series of sensational squalls that only the excellent seamanship of the racing skippers rendered unfruitful in accidents and calamities. Indeed, for three eventful hours, Sunday, July twenty-first, such a succession of squalls, waterspouts, rain and thunder storms and fitful terrific gusts of wind swept over the Lake that even the most reckless sailor in the storm zone took heed of the warning signals and shortened canvas to weather the stress.

One schooner, the doughty Hawthorne, which, however, was not in the thickest part of the weather stood all the wind that came her way with topsails set and every inch of canvas she could muster set to catch the favorable gale and she crept into such a threatening position that she closely pressed the winner, George Tramel's sloop Vencedor, which confirmed her title to Queen of Lake Michigan by carrying off the Mackinac Cup for the second time. Vencedor was splendidly sailed from the start and if she escaped the hard blows, it was because she was so far ahead of them that she merely caught the outer edges of the atmospheric disturbance and it helped her to make a fast record over the course although her record for the first Mackinac Race will probably never be equalled in the history of this trophy, the most valued in fresh water racing. Her thirty-seven and a fraction hours for a course that the steamers log at 331 miles is a performance that any yacht might envy.

The Mackinac course is not only the longest in fresh water racing but the last hundred miles are over waters that are dangerous to navigation and full of what the golfers call "hazzards." Season after season, boats that have stood in commanding positions at the end have run afoul of one or the other of the innumerable shoals, reefs, landspits or other pitfalls in the course of the unwary. Twice with victory in sight "Billy" Cameron's Vanenna has had victory snatched away from her.

The race this year was very different from last year's in that while last summer the fleet all finished inside of a few hours and no less than eight of the boats crossed the finishing line inside of an hour, the fleet this season was scattered so badly by the Sunday squalls and variable wind conditions that it was nearly three days from the arriving time of Vencedor and the finishing time of the little yawl Tannis which brought up the rear.

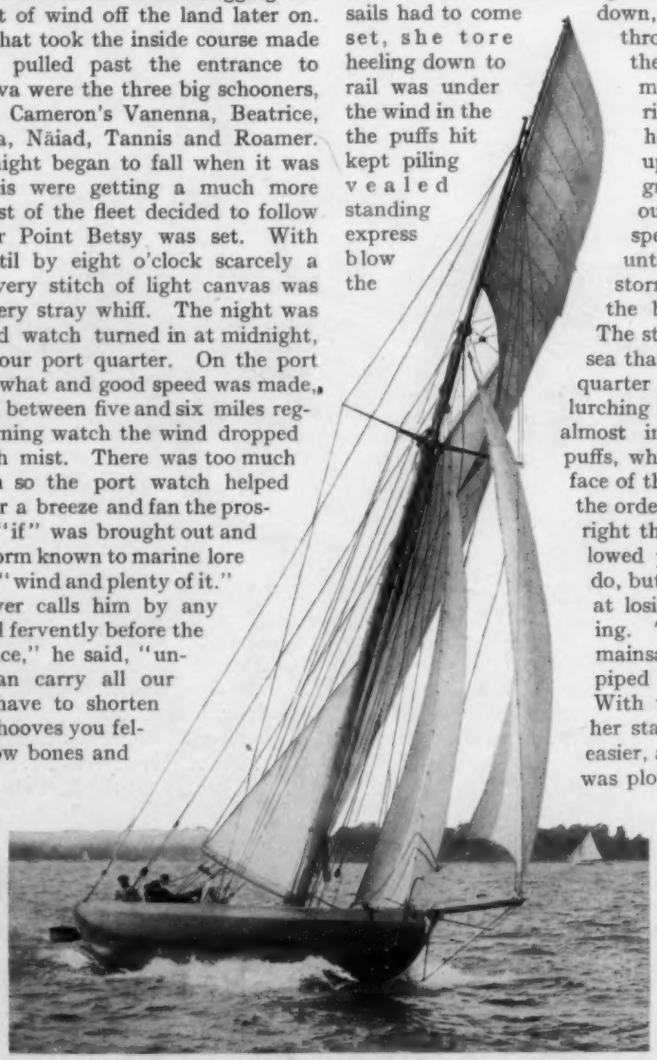
The writer had the good fortune to sail as a member of the crew of G. H. Atkin's staunch two-sticker Nomad and while the brave little schooner did not make a remarkable showing in the race, her trip up the Lake was excellent in that she sailed consistently with the fleet and but for long periods of inaction during which she was becalmed in sight of wind and saw boats that were far behind her go by her in the far distance she would have been well up with the leaders. Out of her total sailing hours she had some thirty hours of calm during which she did not move an average of a mile an hour. As the history of Nomad is a criterion of what happened to the rest of the fleet a few impressions of her race may be of interest.

The start was made off the breakwater of Chicago Harbor, Saturday afternoon, July twentieth at four o'clock. A very light northerly breeze varying to the northeast sent the fleet of fifteen boats to the line close hauled. For fifteen minutes before the start the classy fleet of schooners, sloops and yawls worked up to the line for position and when the starting gun was fired, it found them all well bunched with Vencedor in the weather

position and the trim little Illinois, the old Canada Cup boat, hanging to her like a child to its mother's skirts. Skipper Abe Burrell had picked out Vencedor as the one boat that was dangerous in the race and decided to hang to Tramel's big 52-footer at all costs. Crossing the line from the south Vencedor immediately flattened down sheets and set herself to work out to windward of the fleet. Illinois, Juanita and Ranger, Mower's handsome new cruising yawl built for Commodore R. B. Brown of the Milwaukee Yacht Club also picked the outside course looking for fresher winds far from shore, while Cox and Palmer's Neva led the rest of the fleet on the inside course hugging the shore in hopes of finding a shift of wind off the land later on. With balloon jibs set, the fleet that took the inside course made a splendid marine group as it pulled past the entrance to Chicago Harbor. Following Neva were the three big schooners, Mistral, Hawthorne and Alice, Cameron's Vanenna, Beatrice, Nomad and the yawls, Arcadia, Näiad, Tannis and Roamer. They held well together until night began to fall when it was seen that Vencedor and Illinois were getting a much more favorable slant of wind, and most of the fleet decided to follow Tramel's lead and a course for Point Betsy was set. With nightfall, the wind dropped until by eight o'clock scarcely a breath ruffled the water and every stitch of light canvas was spread on Nomad to pick up every stray whiff. The night was perfect and when the starboard watch turned in at midnight, Grosse Point light was still off our port quarter. On the port watch the breeze freshened somewhat and good speed was made, the steady little craft running off between five and six miles regularly. At eight bells of the morning watch the wind dropped again and the air grew dim with mist. There was too much excitement on board to turn in so the port watch helped the opposite quartette whistle for a breeze and fan the prospects of the race. The eternal "if" was brought out and dished up in every conceivable form known to marine lore and fervent prayers went up for "wind and plenty of it."

"Tommy" Atkin, no one ever calls him by any other name, had addressed us all fervently before the race. "We haven't much chance," he said, "unless we get a blow when we can carry all our canvas when the other fellows have to shorten sail, so we want wind and it behooves you fellows to get down on your marrow bones and entreat for wind."

It looked all day Sunday as though we were far from being "in right" with the powers that rule for breezes, for the wind certainly overlooked that end of Lake Michigan during the early hours of the day and we drifted along seeking favorable slants and interrogating the fog around for information about our rivals in the race. Shortly after noon we sighted the lighthouse tender Hyacynth which ran near us and sent up a signal saying she would report us to Chicago. We hoisted our signal and shortly after, a rift in the fog gave us a view of two yawls working away to our lea while a sloop which we took to be Vanenna was slightly ahead of us. What wind there was proved favorable and by nursing the puffs and carrying every rag we could hoist we managed to keep going toward our destination. Toward sundown the calm dropped on us again and with it the skies began to pile up for mischief. We welcomed the approaching signs of wind only praying that it might come soon and be in our favor and blow away the fog. The starboard watch had the short end of the dog watch and when Skipper Atkin and his assistants turned in, the wind was beginning to come up out of the southeast which enabled us to set all our light sails, sending the water plowing from under the forefoot with a musical hum that sent thrills of delight through the boat as she surged into it with every stitch pulling. By nine o'clock the wind had increased until it was a small gale and the maintopmast staysail and jib topsail had to come down. The kites set her straining so at her helm that she threatened to become unmanageable and pretty soon the two topsails had to come down, and then with all her lower sails set, she tore through the water like a mad thing, heeling down to the freshening wind until her deck rail was under most of the time and the hum of rigging was a piercing staccato as the wind in the her. To windward the weather puffs hit up until the lightning flashes re-kept piling great thunder heads black as ink v e a l e d out in bold relief and traveling at standing speed. Harder and harder grew the express until the skipper, awakened by blow storm, came on deck. By that time the the boat was laboring pretty hard. The stiff southeaster had kicked up a sea that ran in huge waves across our quarter and her big mainsail sent her lurching up into the wind until it became almost impossible to handle her in the puffs, when she went pounding down the face of the big seas. Then "Tommy" gave the order to shorten canvas. It was the right thing to do, and events that followed proved it was the only thing to do, but the port watch grumbled hard at losing the fine footing she was showing. The foresail was taken in and the mainsail lowered while all hands were piped on deck to reef the big sheet. With two tucks in the mainsail and her staysail and jib she handled much easier, and at that the log showed she was plowing up the Lake at a shade better than eleven knots. Then came the first squall. It came out of the south and the wind shifting slightly became dead astern for us. With flowing sheet and our fore topsail set on the spinnaker pole out to windward on the starboard side to steady her, we let her have the full strength of it and she certainly did churn up the "great waters" as though the old spirits of the lake were chasing her. We discovered lights ahead which we made out to be Ludington and a big passenger steamer coming out of the harbor which would intersect our course put us on the anxious seat. In such a wild blow sidelights were invisible a quarter of a mile away even if they were not buried most of the time behind the huge mountains of water through which we were now racing. Our big lantern with its powerful reflector lasted about two seconds in the wind, so a scurry below brought out a turpentine flare and we burned that at short intervals to let the big steamer know



VENCEDOR, FOR THE SECOND TIME WINNER OF THE MACKINAC RACE, THE CLASSIC OF WESTERN YACHTING. SHE ECLIPSED ALL PREVIOUS RECORDS FOR THE COURSE, COMPLETING THE RUN OF 231 MILES IN A LITTLE OVER 37 HOURS.

we were there. Whether she answered our signal or not we never did find out but she evidently saw us for she headed off her course and gave us room to go behind her and we swept under her stern like a torpedo boat at full speed, throwing a cloud of spray that seemed to reach to the crosstrees.

We were now dangerously under the shore and too close for comfort should the wind haul around as it has a habit of doing in these waters so we headed out into the lake and into trouble. The little spinnaker that had enabled us to steer through the blow was unshipped and stowed away and an effort was made to work out into the lake. The rain was coming down in torrents and the air was so thick that it was hard to see a hundred yards ahead, but we could tell by the compass that we were getting a little more sea room and watched the gathering storm signals. The first of a series of squalls to hit us came out of the northwest.

The sky lightened up as though a huge searchlight were playing there and the clouds in black threatening masses raced up to the zenith as though for a prize. Thicker and blacker, they grew until in the almost continuous flashing of lightning they seemed to be tumbling over each other. The water, black as ink, suddenly turned white as snow and from a dozen different points water spouts shot up in the air like great spiral columns whirling and shimmering in the lightning flashes now green and blue, now black as night, now red as flame as a bright lightning flash illumined them from behind. It was an inspiring if terrifying spectacle and one of our crew, a man who has sailed the Sound since he was a boy and was getting his first taste of Michigan weather, said he had never seen such weather in twenty years on salt water and never expected to. With it all came wind and rain. Wind that tortured our rigging until it screamed in pain and which grabbed up a stray end of our canvas that was not lashed tightly to the spars and fluttered it with reports like the snapping of rapid fire guns. First from one quarter, then from the other came the battle of the elements and with it all the rain never ceased and the lightning and thunder played an incessant accompaniment of flash and rumble. In the interims of clearness we were able to distinguish Arcadia and Tannis and Beatrice all under bare poles and blown hither and yon by the wind as it made playthings of the big cruisers tossing them around like so many corks. At last the wind spent itself and with fitful gusts settled down to a dead calm with a heaping sea rolling in from the southeast. For three or four hours we lolled around without making a foot of headway and without even steerageway.

At midnight the port watch turned in for four hours rest and the skipper and his aides took charge of the boat. They had nothing to do but wait and when they called the alternates four hours later hardly a breath of wind was to be found and the schooner rolled heavily on the greasy swell. Day was breaking in a heavy bank of fog and a whisper of breeze crept up from the land that soon swung around to the southward and settled down. Light canvas was brought out, balloon jib and spinnaker set and once more little Nomad bent to her work with a will. It was not very much wind but it helped us along on our course and we were slipping along at a comfortable gait in a heavy fog that lifted about six bells and showed us a yawl on our port bows and another under our stern a bit nearer land than we were. When it cleared a bit more we found we were off Manistee and making pretty good time heading direct for Point Betsy. A little later the wind shifted, again coming out of the northeast and we found we would have to beat to clear Point Betsy which marked the end of the first 200 miles of our northward trip. The breeze picked up a bit and the yawl to port, headed out into the Lake while we took a tack inshore anxious to get near enough to Point Betsy to signal the life saving station and report ourselves as our skipper's young bride was sure to be anxious to hear from us after the bad night on the Lake.

VANENNA WORKING OUT FROM UNDER LEA OF THE HARBOR.

We ran in close to Frankfort, near enough to distinguish the people on the veranda of the big Frontenac Hotel and read the weather signals which each life saving station had been

ALICE LEADING TANNIS AND ARCADIA. CHICAGO LIGHT IS SEEN ACROSS THE BOW OF TANNIS.

instructed by weather forecaster Cox of Chicago to set for the benefit of the racing yachtsmen. The signals were for fresh northerly winds so we held off again. The four mile beat to

AFTER THE PREPARATORY GUN.

Point Betsy was enlivened by a brush with the Soule Brothers' able little yawl Naiad in which we were worsted as they held to the shallow waters inshore and got the benefit of a favoring slant of wind coming around Point Betsy.

JUST AFTER THE START. SCHOONER ALICE AND YAWLS TANNIS, ARCADIA AND RANGER.

We ran in close to Point Betsy and again reported to the life saving station displaying signals showing our identity and asking the master of the station for information regarding other boats in the race. He very kindly signalled us that five boats

had preceded us around the point and we were in high hopes of being well up in the race, as we figured that Vencedor, Vanenna, Illinois, Juanita and one of the schooners to be ahead of us and that our four hours of time allowance would put us well up in the race with the schooners. We headed out into the Lake on the starboard tack and had made an offing of perhaps a mile and a half when the wind dropped down to a flat calm. It was then about ten o'clock in the morning.

SWASTIKA, JACKSON PARK YACHT CLUB, WINNER OF THE COLUMBIA YACHT CLUB MOTOR BOAT RACE FROM CHICAGO TO MACKINAC ISLAND.

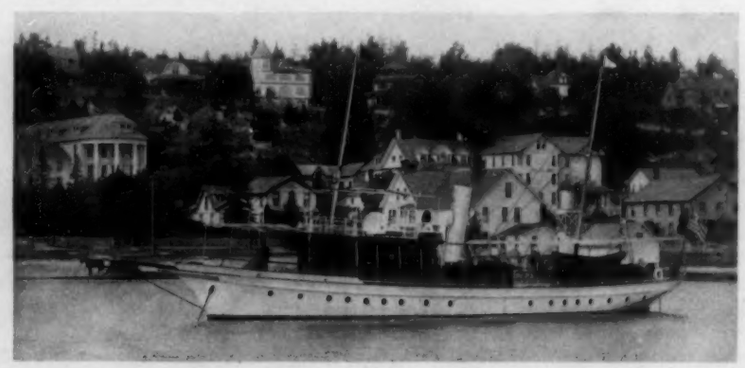
The sun came down with pitiless directness and not a breath of air stirred the water. A swell from the northwest drifted us in closer to shore until we stood right in the track of the steamers as Point Betsy is the turning mark for all steamers coming from the lower Lakes to Lake Michigan points. Big freighters loaded with ore, coal and lumber swept past us in almost endless procession all day. Sea gulls lulled by our motionlessness settled down to a nap on the warm waters within stone's throw of us swimming warily up to us every now and then to pick up stray scraps from our lunch which was served on deck so everyone might be ready in case the wind did come.

During the afternoon Commodore Howard I. Shaw in his motor boat Kitchi Gammi came alongside. Mr. Shaw had started in the Columbia Yacht Club's Motor Boat Race from Chicago to Mackinac Island but had had a breakdown because of a fire on board and had been forced to go into Pentwater for repairs. He reported five boats astern of us and after refusing an invitation to join us at our corned beef and cabbage dinner which was then on the fire, pushed ahead for Mackinac Island with plenty of messages to wives and sweethearts from all on board. The only other excitement of the longest day any member of that crew ever spent was a practical joke the very funny (?) skipper of a big ore boat played on us. He headed his huge freight carrier straight at us then the whole crew of the steamer hid behind the bulwarks. We saw the great hulking monster of the Lakes bearing straight down on us with apparently no one on board and the man at the wheel asleep. He had a perfect line on us amidships and it looked like a general swimming party for all on board and a few crumbled planks to show for the Nomad when to our yells and blasts from fog horns they swerved aside when within a few feet of us and the captain and his crew stuck their heads over the bulwarks with a loud "ha! ha!" that did not sound a bit funny to us.

If there was any consolation to us, and I don't think it consoled anybody very much, in all that long day of toilsome calm, it was that Naiad which had given us such a saucy little beating in the morning was worse off than we were. Soule had stuck to the shore hoping for a shift that would favor him. Instead it held him even tighter than it did us and when after the second dog watch, the skipper and his crew took charge of the boat a little air began to stir it was still from the northwest and little Naiad was hopelessly lost in the bight of a windless bay. By midnight "Tommy" had managed to work the Nomad up close to the south Manitou Island and when he turned her over she was just on the edge of the lea of the island. We of the port watch decided to disregard his careful instructions about keeping out of the way of the steamers in the ship channel and headed out from under the lea to where we could see a favorable breeze. The ship channel is not very wide here and as the stream of boats is almost incessant it was taking a chance but we decided to do it and were lucky enough to work out from under the lea of both the North and South Manitous and by daylight

(Continued on page 184)

POINT BETSY LIGHT WHICH MARKS THE END OF THE DANGEROUS TRIP THROUGH THE STRAITS. HERE A TRUE COURSE IS SET FOR CHICAGO GOING SOUTH.



COMMODORE FRED. A. PRICE'S STEAM YACHT MANZANITA, FLAGSHIP OF CHICAGO ATHLETIC CLUB YACHTSMEN, WHICH RAN AGROUND ON MISSION REEF, BUT WAS LATER FLOATED WITHOUT DAMAGE.

The Motor Boat in Warfare

A LARGE NUMBER OF POWER CRAFT MANNED BY REGULARS AND VOLUNTEERS COULD BE UTILIZED IN REPELLING AN INVADING FLEET FROM OUR SHORES—NO ELABORATE ALTERATIONS WOULD BE REQUIRED—NO SPARKS AT NIGHT—OTHER ADVANTAGES OVER STEAM DRIVEN CRAFT

By HUDSON MAXIM

Photographs by George Grantham Bain

THE warfare of the future upon the sea will be one in which much more attention than heretofore will be paid to the placing of torpedoes where they will do the most good, and very many of our motor boats of even moderate size and speed could be well utilized in planting mines for defensive purposes and in daring attacks upon a foreign navy hovering about our shores.

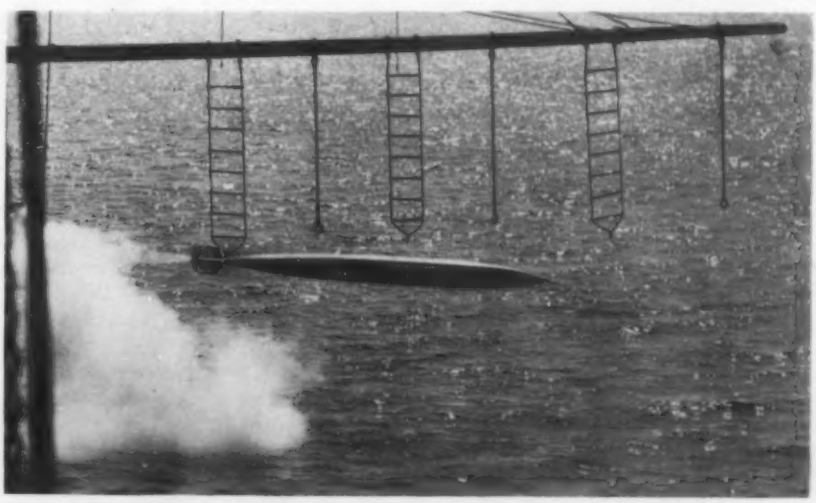
The modern Whitehead torpedo, generally known as the automobile torpedo because it is self-propelling, may perhaps justly be considered the most wonderful of all modern weapons. This torpedo consists of a strong steel cylinder somewhat in the form of a cigar, being about twenty-one inches in diameter and about eighteen feet in length. The main body of the cylinder is filled with compressed air, forced in by powerful air-pumps, until a pressure of about 2,250 pounds to the square inch is attained. A rudder is provided for keeping the torpedo on a straight course. A gyroscope is employed for operating the steering mechanism, and this device is one of the most ingenious known to modern science. The least deviation from the straight course is instantly corrected and the torpedo travels through the water as straight as an arrow.

Now, as the speed of this torpedo, about a half a mile a minute, is not equal to that of the fastest cruisers, torpedo boats and torpedo-boat destroyers, when one of these is launched from the prow of a craft going at full speed there is danger of the war vessel overrunning its own torpedo. When, however, the torpedo is launched from the side of the boat such danger is obviated, but the aim and accuracy of the torpedo are frequently disturbed by the manoeuver.

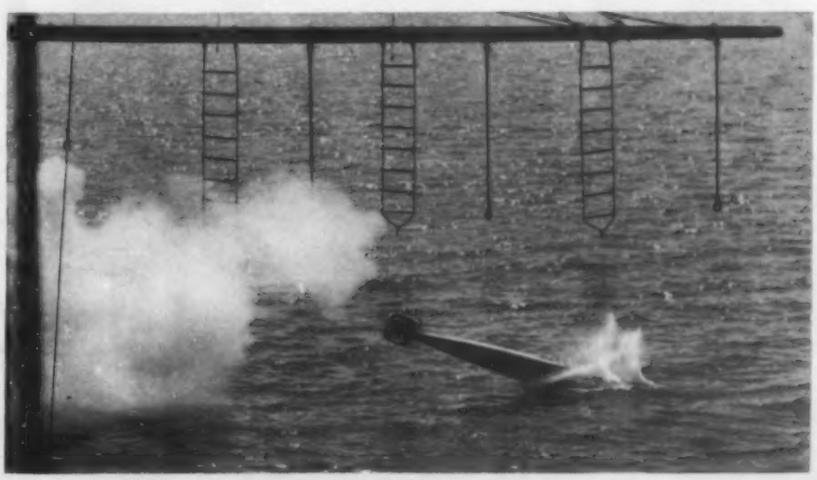
At the present time it would be impracticable for ordinary motor boats and small steam yachts to carry and launch Whitehead torpedoes, or any automobile torpedo driven by compressed air. But an automobile torpedo driven by steam produced by evaporating water with burning motorite, a self-combustive material, has been invented. This torpedo requires no compressed air and may be loaded like a gun and carried on an ordinary motor boat and launched at an enemy's battleship to sink it.

This invention makes it possible in the event of war to utilize as torpedo boats—and very efficient torpedo boats at that—large numbers of our power craft, manned by enlisted men and regulars operating under the guidance of regular officers of the navy.

No elaborate alterations would be required in order to convert it into a boat capable of carrying and operating a steam-driven torpedo, for the only requirements being the means of launching it in the right direction.



METHOD OF LAUNCHING A TORPEDO FROM THE SIDE. A SPEED OF HALF A MILE A MINUTE IS OBTAINED.



TORPEDO ENTERING THE WATER. IT IS HELD IN ON A COURSE, STRAIGHT AS THAT OF AN ARROW, BY A GYROSCOPE.

It may be argued that the ordinary motor boat driven by gasolene engines could be easily destroyed by the machine guns and other rapid-fire guns of the enemy. This is very true, but it is equally true that the present form of torpedo boats are virtually incapable of resisting such gun fire, and are frequently destroyed, with the loss of all on board in an attack; and if they launch but one torpedo which strikes the mark, with this sacrifice, it is esteemed, they have done well.

While a torpedo boat and torpedo-boat destroyer require crews of from twenty to fifty men, a motor boat would need but two or three. Consequently, a much larger number of these small craft could be used, and an attack made from very many quarters without as much risk of life as by the present torpedo boats.

Not only are the motor boats already

existent in the United States very numerous, but they are well distributed over all the lakes and waterways and around our entire coast East and West, and would be quickly available; and at all points the most likely to be invaded, these boats are the most numerous. Again, motor boats of large size can be easily transported on flat cars across the continent in a few days.

The automobile and the motor boat have made engineers of us all, and the wide knowledge in the use and maintenance of gasolene engines would be of enormous service to volunteer troops and marines. We have considered the availability of existing motor boats and other pleasure craft in the event of war. We must now consider what the great motor boat factories might do with their united energies in the making of craft especially adapted as torpedo boats in the event of war.

The passion for high speed has already developed the gasolene engine to a high state of perfection, and has likewise developed the hull of the boat so that the greatest possible speed may be obtained for a given weight and horsepower, and we may now reasonably predict that on the lines of the most successful motor boat racers the coming torpedo boat will be an automobile racer with a long hull and flat bottom, with powerful gasolene engines which will drive it over the surface of the water at enormous speed. With these torpedo boats there will be no blast of sparks and fire from funnels at night, as there is with the present steam-driven torpedo boats. But silently and in the dark they will steal upon the war vessel of the enemy and sink it without a tenth part the risk of discovery that there is of the coal-burning torpedo boat now used.

Let us imagine an enemy's fleet lying off Sandy Hook. We send against that fleet a hundred motor boats, costing say—$5,000 each, each carrying an automobile torpedo, costing $5,000. Then each of our units will cost $10,000 and each will require a crew of two men. The entire cost of our attacking flotilla would be $1,000,000 and 200 lives, and we should be attacking a fleet of say ten battleships, costing $10,000,000 each, total $100,000,000 and 10,000 men. Therefore, each one of our crew would be attacking 50 men, and for every dollar of cost to our outfit we should be attacking $100.

We could approach to within three to four miles of the fleet and launch our torpedoes. It would not be necessary to go within range of machine-gun fire, and a motor boat would make a poor target for quick-firing guns in the night at a range of three miles. The torpedoes launched by the motor boats would travel on a straight line for a distance of five miles at a speed of forty knots an hour.

ARGO, OWNED BY GEORGE W. CHILDS DREXEL, CAPABLE OF A SPEED OF 31.7 MILES PER HOUR. THE TACTICAL ADVANTAGE OF A BOAT OF THIS TYPE WOULD BE THE SPEED, SUPERIOR TO THAT OF A GREAT MAJORITY OF DESTROYERS, ENABLING HER TO CHOOSE HER POSITION, AND LAUNCH HER TORPEDOES AT WILL.

In order to disable many of the attacking motor boats each battleship would have to maintain a perfect tornado of gun fire during the entire night, for it would not do to ignore a single one of these little wasps of the sea, the sting from any of which would be destruction.

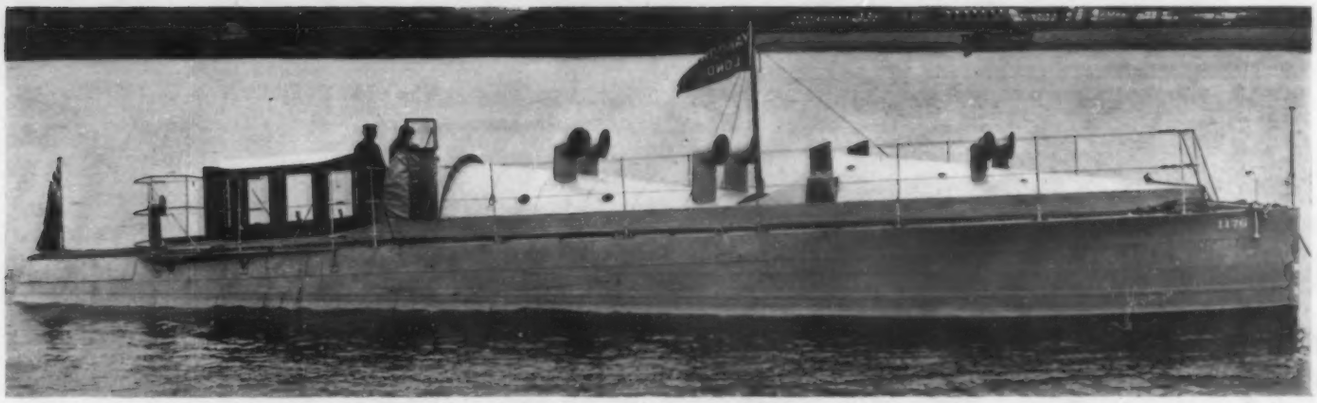
Again, let us suppose that the fleet of the enemy were to be provided with the usual torpedo boat flotilla, and that our motor boat flotilla were to be attacked and destroyed by the torpedo boat destroyers of the enemy, still some of the torpedoes launched by our little boats would certainly find their mark; and should we succeed in sinking but one battleship, we should have won a ten to one victory. We should have destroyed ten million dollars with the loss of one million, and a thousand lives with the loss of but two hundred, to say nothing of the moral influence upon the nation and the disturbing influence upon the remaining ships of the fleet. But the chances are that we should destroy not only one, but several battleships of such a fleet.

There is another matter here for serious consideration: It would require from eighteen months to two years for the enemy to replace a battleship, while we could easily replace our torpedo flotilla in three months, even if we had to rebuild them, but we should not require to rebuild, for we could commandeer, equip, and man another hundred motor boats within a week, assuming, of course, that we should have the torpedoes made and ready.

The Gasolene Motor Boat as Developed Thus Far

By F. C. PERKINS

THE gasolene power boat has recently been developed to such a high state of perfection as to speed, economy of operation, convenience and engine space that it is but natural that naval engineers should consider carefully the use of the internal combustion engine for new torpedo boats. It is generally conceded that the idea of torpedo boat flotillas was that they be of comparatively slight expense, contain many units of small capacity, and be provided with high speed engines,



ENGLISH GASOLENE TORPEDO BOAT, 60 FEET LONG, 19 FOOT BEAM, HAS DEVELOPED A SPEED OF MORE THAN 24 KNOTS AN HOUR CARRYING THREE TONS, THE APPROXIMATE WEIGHT OF FUEL AND TORPEDOES.

very efficient, and exposing only a small area to gun fire. The English motor torpedo boat not only operates at the high speed of twenty-four knots per hour, but has a radius of action for one ton of fuel of three hundred miles, while the best that has been done by torpedo boats driven by steam of the same size and carrying the same load, has been eighteen knots, with a radius of action of not more than sixty miles.

One of the important and interesting points in connection with this torpedo boat is that the fuel tank forms no part of the structure of the hull itself. In case of damage to the hull, the gasolene will not leak into the interior but will pass outside altogether where it will be no menace.

The craft is designed to carry either one torpedo in a revolving tube, or two torpedoes in dropping gear at the side. It is also claimed that it can carry one ton of armament more than a steam driven torpedo boat of the same capacity, as very much less fuel is necessary. Severe tests have been made and there have been shown, according to the boat's advocates, that for defense purposes a flotilla would undoubtedly be of enormous value. There is a decided advantage in being able to transport boats of this size, weighing only eight tons, either by rail or by boat with ease and great despatch.

The boat was constructed at the shipyards at the Isle of Dogs, Poplar, by Yarrow & Co., Ltd., of London, and is provided with engines of three hundred horsepower capacity. It draws twelve inches of water when at rest, so is well adapted for rivers and shallow bodies of water.

There is a small engine in the center of sixty horsepower capacity, and a starboard and port engine, each of one hundred and twenty horsepower capacity, this giving three units of power, driving three propellers, and giving great certainty of action. The central propeller can be reversed; the other two propellers are for going ahead only. The three engines are controlled from the same board while speed indicators are installed for showing the number of revolutions of each shaft.

Each side engine has a high tension ignition box with a single coil and an eight-point distributor. The central engine has a four-point distributor.

The gasolene tank, which is carried aft has a carrying capacity of about two thousand pounds, which will carry the boat three hundred miles without recharging.

The English gasolene torpedo boat shown in the accompanying illustration was designed for operation with alcohol or petrol, and although only sixty feet long with a beam of nine feet it has developed a speed of over twenty-four knots per hour carrying a load of three tons which is a fair allowance for the weight of fuel and torpedoes. Before going further into the details of construction of this English motor torpedo boat it may be of interest to note the engines of German construction, using oil as a fuel. They are for submarine boats.

STERN VIEW OF MERCURY, ONE OF THE BRITISH MOTOR TORPEDO BOAT FLOTILLA WHICH HAVE PROVED MORE EFFICIENT IN MANY RESPECTS THAN STEAM DRIVEN TORPEDO CRAFT.

These engines burn petroleum, two sets of engines driving two propellers side by side in the submarine boat. The engines are of the six-cylinder type of high power and direct connection is made to generators for charging storage batteries for electrically operating motor-driven pumps for air and water. There is no danger of explosion from confined gases as ordinary oil is used instead of the highly inflamable gasolene, benzol or benzine used with other forms of internal combustion engines. When one considers the vastly superior efficiency of the motor torpedo boat over the steam: its smaller fuel burden which permits of greater armament tonnage; its higher speed and wider area of action in proportion to the power consumed; the reduced danger from fire; he cannot fail to be convinced by these elements of advantage, of the ultimate supersession of the one power by the other. Of course vested interests in the older method and sentimental reasons will tend to retard, but they cannot prevent the change, particularly in the age when war and peace are engaged in a fierce contest for supremacy, and each nation is bending its utmost energy and resource outwitting the other in perfection of fighting equipment.

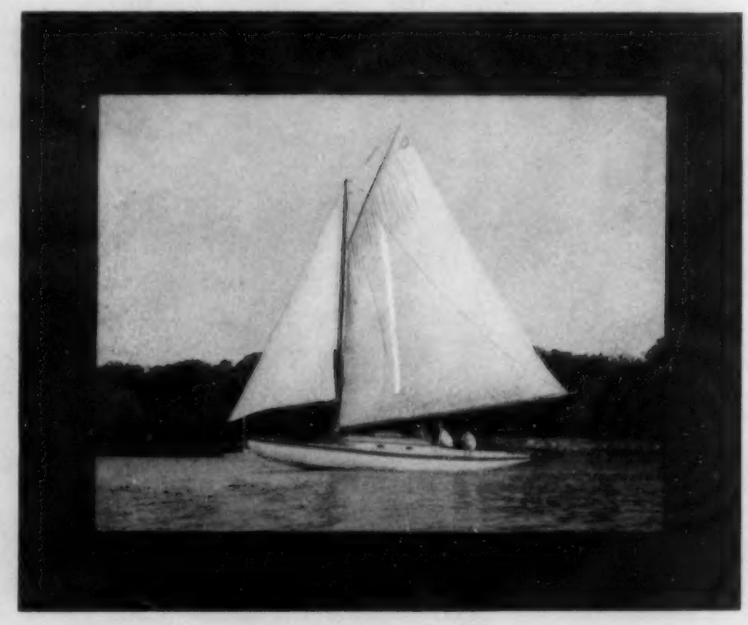
The Block Island Race

A RACE OF VARYING WINDS, AND TIDES, WHICH SCATTERED THE FLEET OF RACERS MILES APART AND RENDERED RELATIVE JUDGEMENTS OUT OF THE QUESTION—OKEE WON RABORG CUP AND HIMROD TROPHY—INCIDENTS OF THE CONTEST—PERFORMANCES OF VARIOUS BOATS

By L. DeB. HANDLEY

THE Yachting Committee of the New York Athletic Club undoubtedly deserves generous praise for the great success of the Fourth Annual Block Island Race started Saturday, July 27, 1907. It was thought last year, when twenty-four starters reported for the hundred mile cruise, that a record had been established which it would be well nigh impossible to equal in the future, but in this people underestimated the resources of the man who has from the very start been the moving spirit of the race. H. A. Jackson, Jr., chairman of the committee, is an able and enthusiastic promoter; he spares no pains to attain success in the enterprises he lays his hands to and the popularity of both the Handicap Yacht Racing Class and the Block Island event, his pet schemes, show ability in this line. Over one hundred personal letters did he write to owners of small boats last winter urging them to second him in his efforts to promote good seamanship, by sending in their entries, and it is probable that had not the Bristol Race and the Indian Harbor Yacht Club's Cruise to New London conflicted with the New York Athletic Club event there would have been over forty starters. But in spite of the rival attractions, just thirty-one boats were on hand, seven more than a year ago.

From every point of the compass the boats began to assemble as early as eight o'clock in the morning of the start, though the warning signal was not to be given until 10.30. The majority were well-known craft, and one noted even the latest of out-and-out racers such as R. A. Brown's class Q boat Vingt-trois, A. C. Jones' Marblehead winner, Nutmeg, Commodore R. C. Mitchell's crack Notos and others no less prominent; but there were also some antideluvian boats whose skippers harbored the hope that their superior seamanship would allow them to wrest victory from the speedier rivals. Among the former winners of cruising events present were little Okee, victor in the Gould Gold Cup contest in 1905 and in the Block Island Race of 1906; Mopsa, second in the Brooklyn Yacht Club's last race to Hampton Roads; Tamerlane, winner of the Bermuda Race of 1906 and L. D. Huntington's curious looking turtle-back Exit, designed expressly by the owner for ocean racing.



OKEE, WINNER OF THE BLOCK ISLAND RACE. A CONTEST CHARACTERIZED BY FOG AND LIGHT WINDS.

The course of the Block Island Race is from the eastern end of Whortleberry Island, off Execution Rock Light, through Long Island Sound, to the West Harbor in Block Island, a distance of one hundred nautical miles. The race is open to all cabin boats measuring less than thirty-one feet on the water line belonging to members of recognized yacht clubs. It is governed by the rules of the Long Island Yacht Racing Association in all but the calculating of racing lengths. The boats are all started in one class, irrespective of size, build or rig, and it was found unadvisable to adopt the Association's system of measurement. The committee was anxious to make the race popular and to give cruising boats an equal chance with the speed freaks, so the over all length was taken as the basis of calculation. This penalizes severely the scows and favors healthier types.

Last year the allowance was set at ten seconds per foot per nautical mile, but so many complained that this gave the larger boats no chance at all that it was decided this year to adopt an eight-second standard, and in order to place auxiliaries carrying heavy engines on equal terms with the others, an additional five per cent was allowed them.

That the new system is more satisfactory than the old one seems to be proved by the division of prizes among boats of all sizes, the four winners Okee, Bobtail, Vingt-trois and Little Peter measuring 29, 42, 36 and 35 feet respectively in a scale ranging from 23 to 46 feet.

There is no restriction to the number, quality and area of sails in the Block Island Race and it was a revelation to see the queer bits of canvas that found their way aloft when the fleet was reaching or running.

Crews are confined to five, of which one may be a paid hand, but the fact that for the first time professionals were conspicuous by their absence goes far to show that yachtsmen are learning fast and becoming self-reliant. A contest which entails at least a day and a night of solid sailing, with the prospect of a passage through the treacherous Race at night against a head tide, and then a twenty-two mile sail out into the ocean with the probability of either squalls, storms or more dreaded fogs, may become quite an undertaking.

This year poor conditions prevailed throughout. All day Saturday the wind traveled in flukey streaks that seldom extended over more than a few hundred yards, and during the night dead calms with short intervals of breeze were experienced. As a result, the leading boats did not reach the Race in time to take advantage of the favorable tide and as it is impossible to get through against tide unless a fair and stiff breeze is there to help one, they hung around for a couple of hours before a brisk southwester came to the rescue. Once in the open, the full benefit of the

breeze was received and by half past two on Sunday afternoon the first boat in the fleet, Notos had passed the breakwater into West Harbor.

Not so lucky were later arrivals. About three o'clock they were enveloped in a bank of fog so dense that one lost sight even of the headsail. With a rushing tide setting off the course it became no easy task to locate the narrow channel leading into West Harbor, and the amateur salts had a real taste of high sea navigation. It was gratifying to see that half the boats made port in spite of difficulties right in the thickest of the fog. Others anchored out over night and finished early on Monday morning. The fog signal on West Harbor was not sounded all Sunday because the man in charge had bought a new dory and thought it more important to go and get her than to be on hand to sound the siren in the case of thick weather.

Of the actual occurrences of the race, it is hard to give particulars for the simple reason that the fleet was scattered miles apart with different winds, varying tides and altogether dissimilar conditions. The start was scheduled for Saturday morning at 10.40, from between two flagged dories anchored about four hundred yards apart, off the eastern end of Whortleberry Island, and here the fleet began to congregate at an early hour. Many of the entrants had spent the night in Travers Island Creek, so to be sure to be on hand, but others coming from afar did not fare as well and the crew of Vingt-trois coming from the Atlantic Yacht Club found it expedient to hire a launch at City Island to get her to the starting line in time.

At ten o'clock an aimless breath of air was floating lazily over the Sound, first from east then from northeast but it was seldom brisk enough to fill the flapping sails and it left the surface of the water in oil-like smoothness. The boats crept by with hardly a ripple. At a quarter after ten Mr. Jackson announced from the committee boat that the warning signal would be postponed owing to lack of wind. Later a light breeze rose shyly from the east and at 11.30 the warning gun was fired. The boats were then so closely packed that it was hardly possible to go about without fouling a neighbor, but the men at the tillers knew their business and skilfully avoided all collisions. At 11.40 the signal was given, and turning eastward with machine-like precision the fleet went off to a beautiful start.

A STUDY IN DOLDRUMS. VINGT-TROIS, ALYCE AND BUSY LEE.

Notos headed the fleet over the line with Busy Bee and Vingt-trois close on, then came about ten boats abreast and the others followed by twos and threes in quick succession.

With the breeze as it was, a straight course could easily be laid, but a straight course would lead amid Sound and no man who knows eastern waters will abandon the shore lines on a hot summer day. It is along the beaches that most wind is found and it is merely a choice of side that worries the Long Island Sound yachtsman. The boats soon split tacks; those who anticipated a northwester headed for the New York shore; those who were confident of the usual breeze from the southwest kept on toward Hempstead Harbor and then hugged the beach with determination. With these various manoeuvers and the flukey streaks of wind, the fleet was soon all over the Sound, now leaning to a lucky puff, again bobbing lifeless in an oily calm.

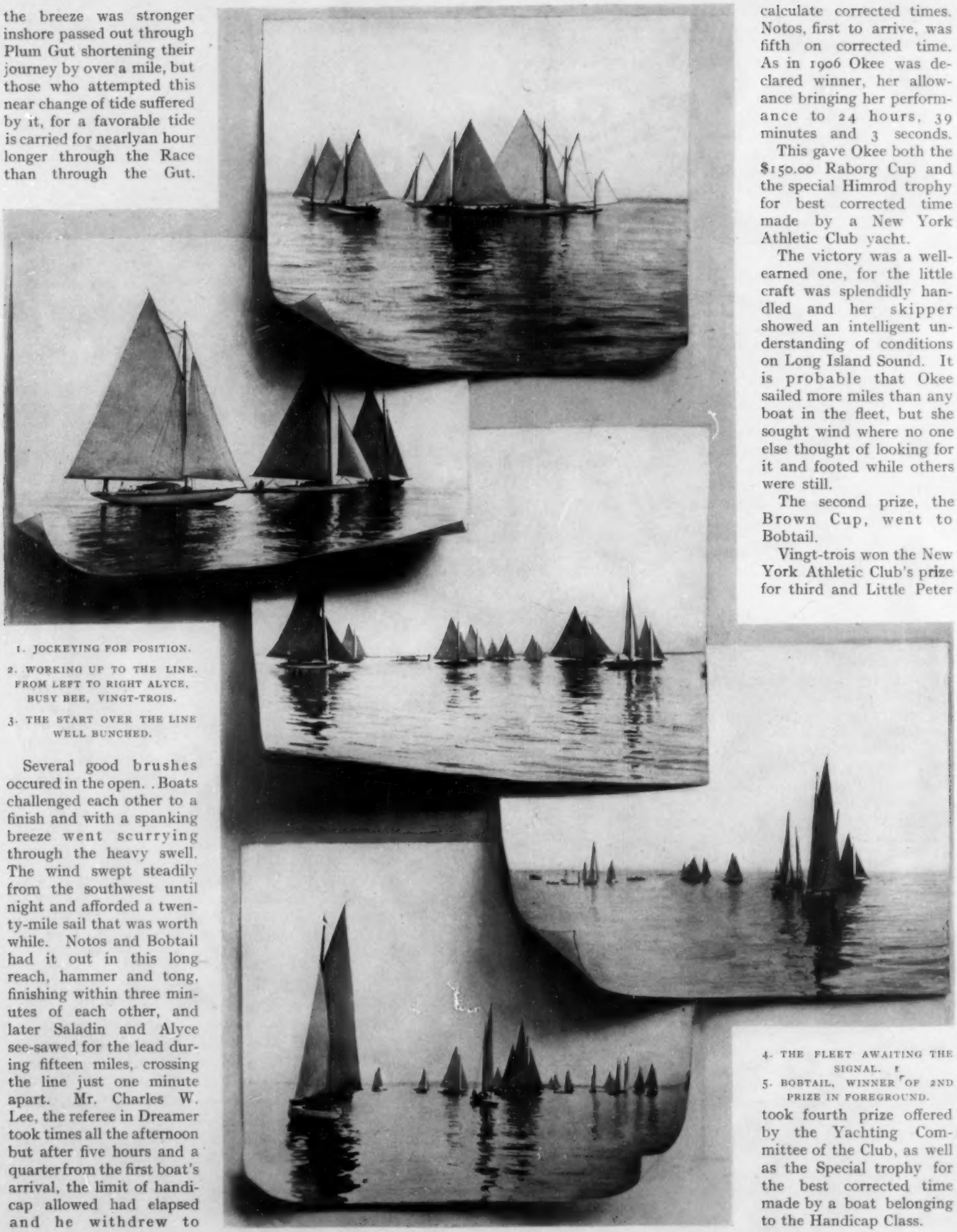
Off Oyster Bay was a streak of dark water which told of wind and everyone tried to edge into it. Many succeeded and held close in, until the buoy off Lloyd's Neck which had to be left to starboard according to government regulations, obliged them to head out. Tamerlane decided not to alter her course, though, and passed inside, with the result that a protest was later lodged against her and she was disqualified by the referee.

When night set in, the leaders were abreast of Old Field Light and the tail-enders some four miles back. What happened in the hours of darkness is hard to tell, for the most conflicting reports were made. According to the various logs the wind must have boxed the compass in many shifts. Calms prevailed, though.

Sunday morning found the fleet so scattered that hardly a skipper could make out more than one or two opponents, though the atmosphere was quite clear. Little headway was made until nearly ten o'clock when wind from both sides came up leaving the middle of the Sound glass-like.

Most of the boats were well under Long Island, and finding that

the breeze was stronger inshore passed out through Plum Gut shortening their journey by over a mile, but those who attempted this near change of tide suffered by it, for a favorable tide is carried for nearlyan hour longer through the Race than through the Gut.



1. JOCKEYING FOR POSITION.
2. WORKING UP TO THE LINE. FROM LEFT TO RIGHT ALYCE, BUSY BEE, VINGT-TROIS.
3. THE START OVER THE LINE WELL BUNCHED.

Several good brushes occured in the open. . Boats challenged each other to a finish and with a spanking breeze went scurrying through the heavy swell. The wind swept steadily from the southwest until night and afforded a twenty-mile sail that was worth while. Notos and Bobtail had it out in this long reach, hammer and tong, finishing within three minutes of each other, and later Saladin and Alyce see-sawed for the lead during fifteen miles, crossing the line just one minute apart. Mr. Charles W. Lee, the referee in Dreamer took times all the afternoon but after five hours and a quarter from the first boat's arrival, the limit of handicap allowed had elapsed and he withdrew to calculate corrected times. Notos, first to arrive, was fifth on corrected time. As in 1906 Okee was declared winner, her allowance bringing her performance to 24 hours, 39 minutes and 3 seconds.

This gave Okee both the $150.00 Raborg Cup and the special Himrod trophy for best corrected time made by a New York Athletic Club yacht.

The victory was a well-earned one, for the little craft was splendidly handled and her skipper showed an intelligent understanding of conditions on Long Island Sound. It is probable that Okee sailed more miles than any boat in the fleet, but she sought wind where no one else thought of looking for it and footed while others were still.

The second prize, the Brown Cup, went to Bobtail.

Vingt-trois won the New York Athletic Club's prize for third and Little Peter took fourth prize offered by the Yachting Committee of the Club, as well as the Special trophy for the best corrected time made by a boat belonging to the Handicap Class.

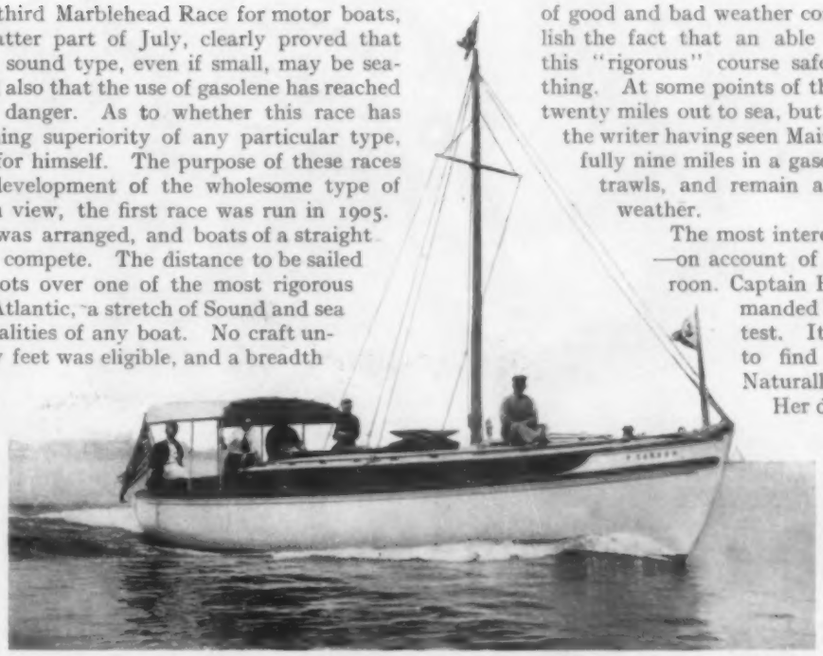
4. THE FLEET AWAITING THE SIGNAL.
5. BOBTAIL, WINNER OF 2ND PRIZE IN FOREGROUND.

The Marblehead Race

By MORTON SPENCER

Photographs by W. B. Jackson

THE results of the third Marblehead Race for motor boats, pulled off the latter part of July, clearly proved that power craft of a sound type, even if small, may be seaworthy and capable, and also that the use of gasolene has reached the point of minimum danger. As to whether this race has contributed to establishing superiority of any particular type, the reader may deduct for himself. The purpose of these races is to encourage the development of the wholesome type of boat. With that end in view, the first race was run in 1905. A long-distance course was arranged, and boats of a straight cruising type invited to compete. The distance to be sailed was practically 270 knots over one of the most rigorous sections of the North Atlantic, a stretch of Sound and sea calculated to test the qualities of any boat. No craft under thirty nor over forty feet was eligible, and a breadth at the water line of not less than one-fifth the water line length was required. That the type was to be wholesome and not of the racing skeleton order was shown by the specifications which provided that an eligible boat must have a trunk cabin house and reasonably comfortable living quarters for the crew, cooking accommodations, and the like. Gasolene, alcohol, or kerosene was prescribed as fuel and the use of solid propellers specified. Reversing propellers were barred. In the matter of manning, the minimum number of hands allowed was four. Such precautions as the towing or carrying of a boat not less than ten feet in length, the equipment with life preservers, anchors, side-lights, fire extinguishers and buckets were exacted.



PICAROON DESIGNED BY WM. H. HAND, JR., WINNER OF THE MARBLEHEAD RACE OVER A COURSE OF 270 NAUTICAL MILES IN 32 HOURS, 57 MINUTES AND 10 SECONDS ACTUAL TIME AT THE AVERAGE SPEED OF 8.9 KNOTS PER HOUR.

When it was proposed to run these races, pessimists predicted all sorts of disaster to the tiny craft that were to engage in them. As if to punish the presumption of the impudent little boats during the first race, the weather slapped and buffeted them about in a most discouraging manner but motor boatmen are not made of the stuff that succumbs to the first breath of disaster. On the contrary, they delighted in the fact that conditions were so strenuous as to "test the very heart" out of their boats. The second contest was much tamer, and the boats did first class work as was expected. The race recently ended, taken with its predecessors, having furnished an all around variety of good and bad weather conditions, serves to establish the fact that an able thirty-footer may take this "rigorous" course safely—which is the main thing. At some points of the voyage the craft were twenty miles out to sea, but this is not extraordinary, the writer having seen Maine fishermen go off shore fully nine miles in a gasolene dory, to set their trawls, and remain all day in all kinds of weather.

The most interesting craft in the contest—on account of her victory—was Picaroon. Captain Hand, her designer, commanded Picaroon during the contest. It would probably be hard to find a more fitting master. Naturally he knew his own boat. Her dimensions are 39.08 feet over all, 35.07 feet on the water line and 9.03 feet beam. She carried an eighteen horsepower Standard motor. Picaroon is a good type of the small motor cruiser. Constructed to stand rough usage, she has a large displacement and high freeboard. In every way Picaroon was "tried out" in the 270-knot race along the coast line under varying conditions sometimes severe.

It is claimed that poor gasolene cost Picaroon two hours' time and prevented her finishing neck and neck with Hopalong, the scratch boat. During the whole voyage the victor showed splendid weather qualities. Even in a big squall she didn't ship any green water. The worst obstacle she encountered was the fog which enveloped her all of one day and part of the night. Everybody knows what a fog means to those in charge of a small boat in the steamship path. Picaroon, after running south a mile, headed east-half-south to make Stratford shoals. Then Hopalong and Whew broke through the fog and kept her company for several miles. Whew's going through Plum Gut, gave Picaroon and her companion a slight advantage. When they passed through the Race, Hopalong was in the lead. Then a southerly wind pushed the fog in from the sea and piled it up thicker than ever, darkness came on, while Picaroon was in Block Island Sound. She steered east, a quarter south, for

ARGO, DESIGNED BY JOHN ARMSTRONG, AVERAGE SPEED FOR THE COURSE 7.28 NAUTICAL MILES TO THE HOUR.

ALDRED THIRD ON CORRECTED TIME. ONE OF CARY SMITH AND FERRIS' BOATS. AVERAGE 7.81 KNOTS PER HOUR.

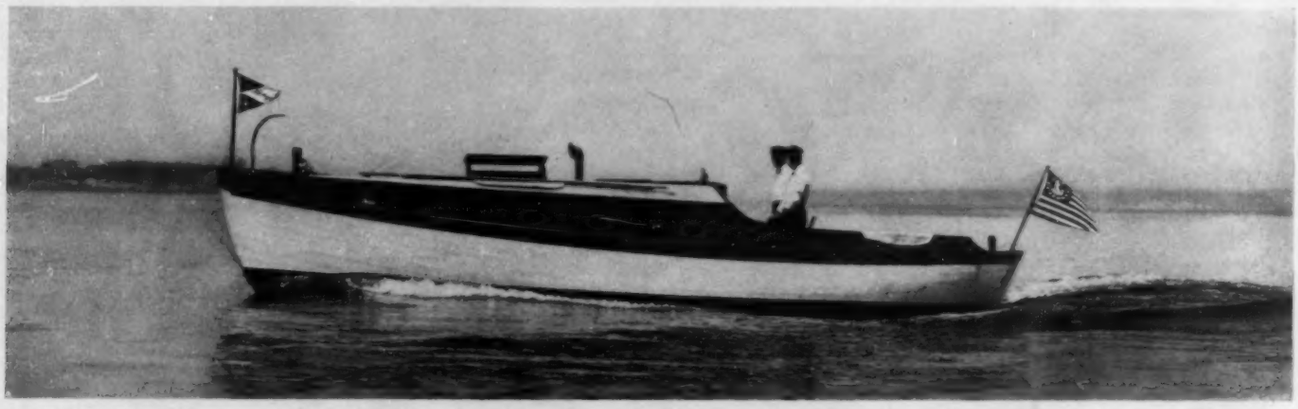
Vineyard Sound light vessel. The skipper calculated that the course should have taken him a mile outside the bell buoy off North Point, Block Island, but instead it led toward the breakers. Suddenly the fog lifted revealing the rocks dead ahead, and the only thing that saved the craft from adding her carcass to many others on that dreary beach was a sudden and effective reversal of her engines. Then a squall burst with great violence, shaking the boat up in great shape and compelling her utmost effort to work off lea shore. After that the sea subsided and a light wind from the north was favoring all the way to the Sow and Pigs Lightship, which was passed about two o'clock the next morning. The run from the light to the Vineyard was made in good time and ten five-gallon cans of gasolene were taken aboard. Then on again. Off Highland the engines "bothered" somewhat, running weakly to the finish. The last fifty miles was made in about six and a half hours. The trouble with the engine was not located until the following day when the carbureter was found to be practically flooded. Picaroon left New Rochelle July twentieth at 10.15 in the morning and finished at Marblehead at 7.12.10 p. m., on July twenty-first. Her rating was 31.63; elapsed time, 32.57.10; allowance, 4.10.46; corrected time, 28.46.24; and her average speed per hour, 8.19 knots.

Mr. William H. Hand, Jr., who commanded Picaroon says of the results of the contest: "I am of the opinion that these long races are won and lost on detail. I gained much valuable experience on the run and have learned that a race of this length is quite a different proposition from the regular thing. It is very important that all details are arranged properly and carried out in a businesslike manner. Carelessness in a few little things nearly cost Picaroon the race."

Another interesting craft was Hopalong, the scratch boat. Hopalong is 37 feet over all, 33.21 on the water line, and has an extreme beam of 8.37. She carries a four-cylinder Jager engine capable of 600 revolutions a minute and has an 8 foot cockpit, a roomy engine space, and a big cabin. Her displacement is moderate and her freeboard considerable. Hopalong was designed by Small Bros.

Irene and Aldred made the race practically neck and neck, from New Rochelle to the Race. When night came on bringing rain and thunder squalls, they separated. Later, on account of a faulty adjustment of her compass, Irene deflected from her course in the direction of Cape Ann, thus losing about an hour and a half. Irene was built on designs furnished by E. B. Schock. She has a length over all of 33 feet and her extreme beam is 8.76 feet. She carries a 12.21 horsepower Standard motor. Aldred was designed by Cary Smith & Ferris. She was constructed along lines very similar to those of Ailsa Craig, victor in the Bermuda contest, and was designed by the same firm. She is 30 feet over all with a width of 6.34 feet and carries a 10.47 horsepower Murray & Tregurtha motor. Aldred's elapsed time for the race was 34.35; rating 30.72; allowance, 4.48.41, and corrected time, 29.46.19, making an average run an hour of 7.81 nautical or 8.99 statute miles.

Edwards S. Welch's Whew was designed by F. D. Lawley. She has a length over all of 43.75 feet and her extreme beam is 7.09 feet and carries a 19.88 horsepower Murray & Tregurtha



IRENE, DESIGNED BY E. B. SCHOCK. SHE TOOK SECOND PLACE ON CORRECTED TIME AND MADE THE COURSE AVERAGING 7.83 KNOTS PER HOUR.

HOPALONG, THE SCRATCH BOAT, DESIGNED BY SMALL BROS. RATE OVER THE COURSE 8.79 KNOTS PER HOUR.

motor. Susie, the seventh boat to make Marblehead, was designed by Geo. J. Stelz. Her length over all is 32.16 feet and her extreme beam 6.15 feet. She is propelled by an 8.01 horsepower Fulton motor. Susie made an average speed of 6.94 nautical or 7.99 statute miles. Her rating was 28.30; allowance, 6.40.25; elapsed time, 38.53.00; and corrected time, 32.27.35.

Argo, designed by John Armstrong which reached Marblehead sixth in the race, has a length over all of 32.16 feet, an extreme beam of 6.15 feet. Her power is from an 8.01 horsepower motor. Argo's rating was 31.80, her time allowance, 4.02.47. She made the run in 37.05.19 elapsed time or 33.02.32 hours, corrected time—an average of 7.28 nautical or 8.38 statute miles.

The Marblehead race was well managed and fairly run. Good fellowship and true courtesy at both ends prevailed. Mr. Eben Stevens, who offered the Cup, set the pace and all happily followed.

The Practical Side of Motor Boating

The Carbureter and Its Functions

By HOWARD GREENE

BECAUSE several machines or pieces of apparatus are constructed on the same principle and operate fundamentally in the same way, it does not necessarily follow that they look alike or possess the same mechanical details. On the contrary, the same general principles may often be taken advantage of and the same results attained through the use of mechanical means that differ widely in detail. This is true to a considerable degree of carbureters, and for this reason a detailed explanation of the working of any particular form of carbureter (there are scores of different makes in use) would be of little service to the man who does not understand the underlying principles. But, on the other hand, if the principles are understood, it is not difficult to figure out the method of operation of any carbureter. And as it is an exceedingly important adjunct of the engine, and a thing that should be understood or left severely alone, it will not be amiss to examine the principles involved.

The function of the carbureter is to convert gasolene from a liquid to a vaporous form and mix the vapor with air, in the correct proportion to form a mixture which, when ignited in the cylinder by an electric spark, will burn quickly and leave no deposit. This is a simple enough statement, but the making of a carbureter that will form a proper mixture at all times, regardless of weather conditions, and, give it automatically to the engine at all speeds is a matter of the greatest difficulty. Fortunately a marine engine runs most of the time at a fixed rate of speed and its load is steady and constant; therein it differs from the automobile engine, which is constantly changing its speed and load and therefore, taxes its carbureter much more severely.

When air is drawn into the cylinder or the crankcase, there will be a slight degree of vacuum in the inlet pipe because of what might be called the stretching out of the air. The smaller the pipe, the greater will be the vacuum or sucking effect. If, then, a small pipe is run into this air-pipe somewhere between its open outer end and the point where it connects with the engine, and gasolene is fed into the small connection, the suction will draw the liquid out of its duct, through the air-pipe and into the cylinder—provided that only a slight effort is required. This is practically all there is to the old type of carbureter known as a mixing-valve—a type which, though still used to a very li nited extent, has practically been displaced by the more modern float-feed type, of which more, later.

The mixing valve is not, of course, a part of the air-pipe, but a separate brass fitting screwed to and forming practically a continuation of it. A small nozzle connected with the fuel feed opens into the air pipe and a valve regulates the flow of gasolene or shuts it off altogether.

The valves used to regulate the flow of gasolene are almost invariably of the needle type, in which a very gradually tapered plug fits a correspondingly shaped hole, through which the gasolene flows. The plug can be screwed in or out and the fineness of adjustment of which the needle valve is susceptible makes it particularly valuable for this work.

When the engine is running the current rushing through the air-pipe evaporates the gasolene drawn from the nozzle and carries it to the cylinder. At high speed the suction is fairly strong and the gasolene may be drawn out in the form of a fine spray. The flow is regulated by the needle valve and the suction can be governed by varying the area of the air opening, a butterfly valve being, in many cases, provided for this purpose.

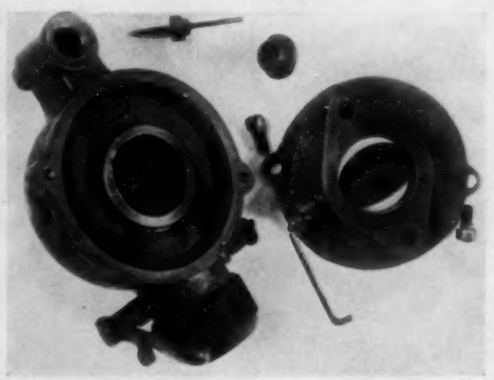
The mixing valve has the serious defect of not being automatic in its action under varying conditions. It requires frequent adjustment and delicate manipulation, and if the valve is left open when the engine is not running the gasolene will, of course, continue to flow until checked. These faults are overcome by the modern float-feed carbureter, in which the feed is regulated by an automatically operated float and there are also, as a rule, means for automatically varying the proportion of air to gasolene.

In the float-feed carbureter the nozzle projects upward into the air passage substantially as in the mixing valve, but the gasolene does not flow to the nozzle direct. It flows from the tank into a separate compartment called the float-chamber, in which there is a float made of very light hollow metal or of cork treated with a special preparation to prevent gasolene from soaking in and making the cork heavy. This float is connected with a needle valve in such a way that when the float-chamber is empty the valve is wide open and gasolene can flow in freely; the rising of the float, however, causes the valve to close when the predetermined level is reached. Sometimes the gasolene enters the top of the float-chamber and the needle of the valve is attached directly to the float, projecting upward into the gasolene orifice; and sometimes the float is attached to a hinge or pivoted lever at one side, with the needle projecting downward from the other end of the lever to the gasolene orifice at the bottom. There are various ways of working out this detail, though the principle remains unchanged. A passage establishes communication between the float-chamber and the nozzle, so that gasolene can flow freely into the latter, and the float valve and nozzle are so adjusted with relation to each other that the level of the gasolene is automatically maintained at the proper height, usually very close to the tip of the nozzle. As there is free communication between nozzle and float-chamber, the level of gasolene will of course be the same in both. When the level begins to fall, the valve opens and the level is restored. In practice the valve is always slightly open when the engine is

running, permitting as much to flow in as is taken out through the nozzle and maintaining a constant level. The space above the nozzle where the air and gasolene mingle is called the mixing-chamber.

In carbureters where the float-chamber and the mixing-chamber are placed side by side the level of gasolene in the nozzle will not be the same as in the float-chamber if the carbureter is tilted so that one chamber is higher than the other. If the nozzle is brought lower than the float-chamber gasolene will flow out, and the air will be too heavily charged with it. On the other hand, if the float-chamber is brought lower than the nozzle, the gasolene will fall in the nozzle and the mixture will be weak. Such conditions may be produced by the movement of the boat in rough water. While variations in feed caused in this way are comparatively slight, still there are many manufacturers and users who believe that a carbureter that cannot be affected by any tilt it can get in ordinary use is better than the carbureter which can be so affected. There is a type of carbureter in which the air passage is carried up through the float-chamber with the nozzle in the center so that the float is either a ring, surrounding the mixing-chamber, or a horse-shoe shaped affair hinged at one side. As the nozzle is directly in the center, the level of the gasolene is practically unaffected by tilting.

Marine float feed carbureter. Air inlet at right and mixture outlet on top. Regulating lever connected to valve in air inlet and to throttle in mixture outlet. Small chamber at left contains needle-valve operated by float; gasolene pipe is connected at bottom. Handle for regulating needle-valve in spray nozzle is shown under body of carbureter; close to it is the sediment plug.



Same carbureter with top removed, showing horse-shoe cork float, extending around mixing-chamber with gasolene nozzle in center; the float-operated needle-valve removed from its chamber; and throttle valve in cover. Lever from float extends through passage into needle-valve chamber.

Another very important adjunct of the modern carbureter is the automatic air valve. As the air rushes through the passage when the engine is first started, we will say, it takes up just the right amount of gasolene to form a proper mixture, and continues to do so up to a certain point in speed. As the speed increases, however, a condition is soon reached under which the suction is so great that the amount of gasolene taken up is greater, in proportion to the volume of air, than at lower speeds, and an over-rich mixture results. In order to overcome this an auxiliary air opening is provided, fitted with a valve normally held closed by a light spring which is so adjusted that when the suction in the air passage becomes sufficient to draw an excess of gasolene, it pulls open the air valve, thus reducing the degree of vacuum. The higher the speed the wider the auxiliary air valve opens. A great many extremely complex systems have been built up on this principle, as well as many very simple ones. In this connection it is well to bear in mind that the object of an air valve or valves is not to increase or decrease the volume of air taken into the cylinder, but to regulate its velocity. A certain volume of air is necessary to completely fill the cylinder at each stroke, and if it is not so filled there will be an unnecessary falling off in efficiency. But by partly closing the air opening the velocity of the current is increased and so is the degree of vacuum pulling on the gasolene in the nozzle. So when a man talks about giving his engine more air he means less gasolene but the same volume of air at lower velocity, and vice versa.

Another way of accomplishing the same result is to connect the throttle valve (which governs the volume of mixture passing to the engine, just as a valve governs the quantity of steam flowing to a steam engine), to a valve controlling the air opening, so that as the throttle is opened and the engine speeds up, the air opening is also widened, keeping the suction on the gasolene correctly proportioned to the speed. There is usually a regulating valve in the spray nozzle, and sometimes in the gasolene inlet to the float-chamber or between the float-chamber and the nozzle. In the bottom of the float-chamber is a removable plug for draining out sediment and water that may settle.

All kinds of trouble may originate in the carbureter, through lack of proper adjustment. If the mixture is too weak—lacking in gasolene—it will often burn so slowly that the maximum pressure will be attained very late in the stroke, and the pressure will be so great when the piston uncovers the ports that part of the still burning charge will be forced down the transfer passage and the mixture in the crankcase will become ignited. It does not require an expert to tell when a crankcase explosion or back-fire occurs, for the noise and the smoke issuing from the joints and around the crankshaft, if there is a little play, will show what is happening. Any packing used about the crankcase may be blown out in this way. Wire gauze in the transfer passage does not always prevent back-firing because, though the flame itself will not pass through, the gauze may become heated by contact with the burning gas and the heat be transferred to the fresh gas on the other side. Remedy the trouble by turning on more gasolene, a very little at a time. Just how this should be done will depend upon the particular carbureter you use. It may be done by adjusting the float and needle-valve so as to slightly raise the level of the liquid in the nozzle; by increasing the speed of the air current and causing more gasolene to be drawn up; by increasing the opening of the nozzle, either by opening the needle-valve or by changing the tip, as provided for in the apparatus; or by opening the valve between the float-chamber and the nozzle. Back-firing may also be caused by very late ignition, so don't blame the carbureter if the ignition is much retarded. Also remember that badly obstructed exhaust passages may cause sufficient back pressure to produce back-firing. Too much gasolene betrays itself by smoke and smell and the remedy is, of course, just the opposite to the remedy for a weak mixture. Don't mistake the blue smoke caused by an excess of lubricating oil for the black smoke of gasolene. The exhaust will have an unpleasant odor, indicating too much fluid, before it gets smoky, indicating a great excess and a probable deposit of soot in the cylinder. The exhaust ought to be practically odorless. Cranking for a long time without explosions is apt to fill the cylinder with a mixture too rich to ignite, or even to deposit liquid gasolene, which must be worked out before the engine can be started.

The Stafford Galvin Gate.

A THOUSAND MILES OF COAST THAT OFFERS CONDITIONS AS VARIED AS THE WATERS OF TWO CONTINENTS—THE SPORT IS IN ITS INFANCY THERE BUT RACING INTEREST IS KEEN AND FULL OF PROMISE FOR THE FUTURE—OCEAN THRESHES A FIXTURE—ACTIVITIES OF THE VARIOUS CLUBS

YACHTING on our Pacific coast, on the vast "American Ocean" is but an infant sport, the lusty child of the favored people of a favored land. Along a thousand miles of coast there are a scant half dozen of harbors which are available for yachtsmen, but their activities in these harbors and off soundings already give promise of a great future for the sport in these waters. Racing types are being developed, handsome trophies give zest to interclub contests and the yearly San Pedro-Honolulu Race, one of the greatest of deep sea contests, bids fair to become a fixture in its annals.

Six months out of every year the strong Trades sweep down this splendid expanse of waters lying between Cape Flattery and Point Loma. At the north there are heavy fog-banks along the warm waters of the Japan Current, and inshore such regions as those about Point Concepcion and Cape Blanco are baffling to the coaster, but taking them "by and large" the sailing conditions of the west coast are admirable.

In the Columbia River and in Puget Sound the yachtsman finds protected waters in which he has developed the usual beamy type of centerboarder. Flaws and sudden squalls sweeping across these waters make the sport highly exciting and dangerous. The social side of the game is strongly accented and the clubs by reason of their remoteness have little or no contact with one another. Astoria is the Mecca of the Portland Yacht Club, where dances and clambakes are part of the annual program. In this mild climate there is no closed season for yachting, but during the winter rains the power boatman is more in evidence than the yachtsman.

SPIRIT OF THE SEATTLE YACHT CLUB, DESIGNED BY THEODORE GEARY, WINNER OF 1907 RACES FOR THE DUNSMUIR INTERNATIONAL TROPHY. THE FIFE DESIGNED SLOOP ALEXANDRA OF THE ROYAL VANCOUVER YACHT CLUB WAS THE CANADIAN CONTESTANT.

MISCHIEF II, HOLDER OF LIPTON CUP, THE CHIEF TROPHY OF WEST COAST.

This northern coast is a wild and rugged land whose mountains rise like a great wall from the sea, and whose forbidding outline warns the cruiser to keep his offing. Cold winds and raw fogs make the coast unfriendly to the harbor sailor, and off soundings the weight and speed of the seas are factors which the cruiser must consider.

There is no dearth of sailing craft. One may see the bluff square rigger from Hamburg and New York, the staunch lumber schooner from the edge of the great pine forests, deep sea fishermen and sealers, and the queer rig of the Astoria Finns with its square running-sail set well in the bows.

Below Astoria the adventurous cruiser finds no club burgee

AVALON ON SANTA CATALINA, THE OBJECTIVE POINT OF DISTANCE RACES.

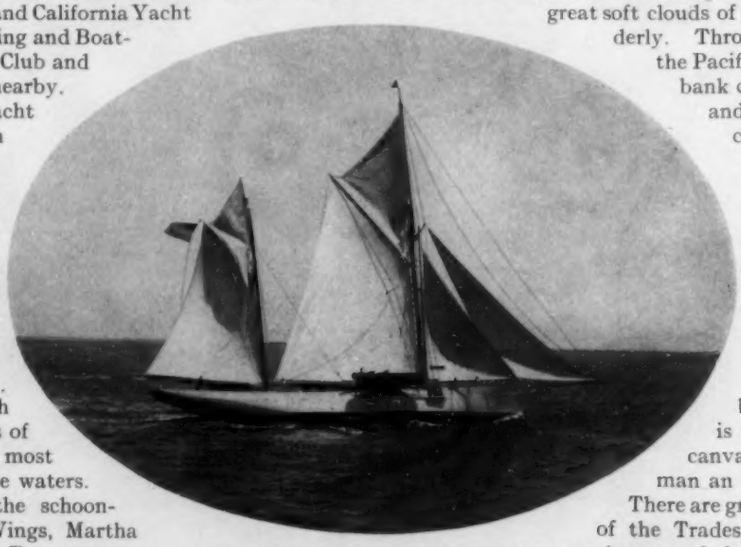
in half a thousand miles, until he crosses the tide-swept bar of the Golden Gate and enters the enclosed waters of San Francisco Bay. Here are the colors of the San Francisco Yacht Club, Corinthian Yacht Club, and California Yacht Club, with the Vallejo Yachting and Boating Club, the Encinal Yacht Club and the South Bay Yacht Club nearby. Of these the San Francisco Yacht Club is the senior, having been founded in 1873. Its house is at New Sausalito within easy reach of the city, and it was, until the destruction of San Francisco, the chief yachting organization of the Far West. Its landing stage is fortunately located in deep water accessible to the largest hulls at low tide, an important factor which has done much for the success of the club by attracting to it most of the larger yachts of these waters. Notable among these are the schooners Virginia, Chirpa, White Wings, Martha and Josephine, and the yawls Tramontana, Iola, Idler, Seven Bells, Frolic and Wave. Club regattas are well attended, and occasional cruises are made to Monterey Bay and nearer ports.

The chief rival organization is the Corinthian Yacht Club which has shown its prowess by winning and holding the San Francisco Perpetual Challenge Cup. This trophy, which has been held by Bay yachtsmen since 1895, is open to all the coast, but has been sought only by boats from the local clubs. South Coast yachtsmen, however, sent a challenger in August of this year, but failed in the attempt to capture the cup. The result showed that their boat was not suited for the heavy work of Northern waters, being better adapted to the lighter conditions of Southern sailing. The conditions of the cup contest are liberal, the chief requirement being that the racing length of the challenging boat shall not exceed by more than ten per cent the racing length of the largest craft in the challenged fleet. This delightful and naïve uncertainty and latitude doubtless adds to the mystery of the game. In addition to this open contest, each club has its own regatta and handicap events.

The California, Vallejo, Encinal and South Bay Yacht Clubs are smaller groups identified with the growth of the sport, but also interested in the minor aquatic activities, such as canoeing and swimming.

Four hundred miles south of San Francisco one enters the Santa Barbara Channel, bounded on the east by the sweeping outlines of the Santa Ynez and San Rafael Mountains and hedged in on its western side by the purple masses of the channel islands. For the yachtsman this channel is a veritable paradise. Above it course the great soft clouds of the Trades, guileless and orderly. Through it blow the breezes from the Pacific. Here is no mysterious fog-bank chaos of the North, formless and baffling. The Santa Barbara channel knows no storms with the exception of the occasional winter southeaster so well described by Dana, and this is seldom more than a gale. There are no protracted calms, and so certain is the wind from day to day that no small cruiser heeds her glass, but rather orders canvas by the clock. Reefing-tackle is almost unknown and storm canvas is for the local yachtsman an interesting curiosity.

There are great swinging seas in the wake of the Trades, but they are longer than the seas of the Great Lakes and never so



ANEMONE IN SAN PEDRO-HONOLULU RACE.

THE GAUNT CRAGS OF MONTEREY.

high as those of the North Atlantic, so that the well handled and stable cruiser need not fear them. The air is never sultry, on the contrary the region retains the bracing effects of the northern spring throughout the summer.

Santa Barbara is a delightful port to visit, but the harbor is an open roadstead affording safe anchorage only in summer. Between Santa Barbara and San Diego, a distance of two hundred miles, there is but one harbor, that of San Pedro, the growing port of Los Angeles. Here is the home of the South Coast Yacht Club, and here is destined to be the chief yachting center of the Pacific Coast, if present indications are to be believed.

To the south of San Pedro lies Avalon on Santa Catalina Island the Magic Isle beloved of travellers and bridal parties, an easy afternoon reach across the Channel, and about it loom the huge bulks of the Channel Islands. Here is incomparable deep sea fishing. There are albicore with their flashing sword-like fins, giant jewfish and leaping tuna, barracuda and Spanish mackerel in countless thousands. Seal and sharks, porpoises and whales are frequent visitors, and in the depths are gardens of matchless beauty through which flit and flash rainbow fish and rare polyps, the vision of whose form and color is as fugitive as a dream. Above the surface floats and soars the fairy flying-fish like some steel-blue bubble with wings of gossamer. It is an enchanted sea as mystic as the Aegean and more virile and satisfying. On shore are quail and grouse, wood-pigeon and the mountain goat, and along the beach the hungry sailor finds the succulent crawfish and the humble clam.

The South Coast Yacht Club was founded in 1901 with fourteen members, and a very small fleet. The following year two perpetual challenge cups were offered, the Times Trophy and the Ocean Park Cup.

With these as an incentive the building of suitable classes was begun at once and the club soon found itself well equipped in both men and boats. Terminal Island near San Pedro was until recently the site of its club house and behind it lay the anchorage in a blind estuary. Venus, Monsoon, Mischief and Mischief II, all in the 25-foot class, have carried the reputation of the club into other waters, developed and established common sense and seaworthy class, and brought to San Pedro the coveted Lipton Cup. Lurline, the flagship of Commodore H. H. Sinclair, won the cruising race to Honolulu last summer. A fleet of likely cruisers and knockabouts give promise of good sport in the future.

At the time of the destruction of San Francisco, the west coast clubs were preparing for a cruising race from San Francisco to Honolulu under the auspices of the San Francisco Yacht Club. That catastrophe made the race impossible as arranged, and the South Coast Yacht Club stepped in for the credit of the coast and undertook the management of the race under its own colors, and from its home port. Anemone, flying the burgee of the New York Yacht Club beat in from San Diego after her cruise of 16,000 miles. It was typical of the history and future of the Golden State that in this first deep sea yacht race from its shores, the East and the West should have met, the lean, powerful ketch from the North Atlantic, the versatile, airy little schooner from the depths of the sea islands, and the well equipped, resourceful, victorious cruiser from the edge of El Dorado. Lurline won this race over a course of 2400 miles, with an ample margin. Anemone was second, sailing a faultless race over a somewhat shorter course, and La Paloma fighting a leak for a fortnight struggled into her home port too late for honors. The South Coast Yacht Club feels justly proud of the successful ending of this event, and has issued an invitation for a second race to take place in the summer of 1908, with the hope and intention of making the California-Hawaii contest a fixture.

In addition to this ocean race of the first magnitude and the races for the Lipton, Times and Ocean Park Cups, the Los Angeles yachtsmen have many class races and a number of delightful cruises to the retreats on the islands and along the mainland. The harbor of Avalon is never without visiting craft which gather there in numbers at the week ends.

START OF THE PACIFIC OCEAN RACE—PALOMA IN THE LEAD, LURLINE AND ANEMONE FOLLOWING.

The growth of San Pedro brought wharves and shipping so near the yacht anchorage in the inner harbor, that it was decided recently to move an anchorage into the outer harbor. A site was purchased on the bluff and there a comfortable and commodious club house has been built, which overlooks the channel and the distant islands. At the foot of the bluff a locker house and sparloft will be built this summer.

Two seagoing yawls, two large auxiliary schooners, one steam yacht and a fleet of small boats and power boats have been built or imported since ground was broken for this club home.

San Diego, a hundred miles from San Pedro, has one of the world's greatest natural harbors, and has always been a favorite place for inside sailing. The San Diego Yacht Club is a small but active organization to which Sir Thomas Lipton presented the chief trophy of the west coast. By the terms of the deed of gift, this cup is to be raced for on three days of August or September at a place to be designated by the San Diego Yacht Club, and is open to all cabin sloops of 25 feet, such sloops to be substantially built with bulkheads and bunks, and to have twenty per cent of their sail area before the mast. Mischief II of the South Coast Club is the present holder of the trophy.

KATRINA WITH RAIL AWASH—A REMARKABLE PHOTOGRAPH OF A SCHOONER REALLY IN ACTION—NOTE THE INTENSITY OF THE WHOLE SCENE AS CAUGHT BY THE CAMERA.

Résumé of July Races

Photographs by James Burton and Edwin Levick

LARCHMONT RACE WEEK RESULTS

SCHOONERS, CLASS B, 80 TO 90 FEET.

	1st.	2d.	3d.	Pts.
Queen	4	0	0	12
Ingomar	0	4	3	9
Elmina	1	1	3	9

SLOOPS, CLASS J, 57 TO 68 FEET.

Effort	4	1	0	9
Neola	1	2	0	5

SLOOPS, CLASS K, 48 TO 57 FEET.

Istalena	1	1	1	14
Winsome	1	2	3	14
Aurora	1	1	2	14
Avenger	1	0	0	4

SLOOPS, CLASS L, 40 TO 48 FEET.

Gardenia	4	0	0	8
Eleanora	1	4	0	6

N. Y. Y. C. 30-FOOTERS.

Adelaide	2	1	2	30
Minx	3	0	1	28
Alera	0	2	0	25
Atair	0	2	0	18
Banzai	0	0	0	15
Nepsi	0	0	1	14
Phryne	0	0	0	0

RACEABOUTS.

Pretty Quick	2	1	1	18
Rascal III	2	1	0	18
Nora	1	2	1	18
Chinook	0	1	3	15
Tomboy	0	0	0	5

SLOOPS, CLASS P, 22 TO 27 FEET.

Sue	3	2	0	18
Regina	2	3	0	17
Miana	0	0	4	8
Elvira	0	0	0	1

LARCHMONT 21-FOOTERS.

Dorothy	3	0	1	14
Vaquero	1	3	0	13
Houri	0	1	0	3
Follette	0	0	3	7

SLOOPS, CLASS Q, 18 TO 22 FEET.

Dorothy	3	1	1	22
Capsicum	1	4	0	19
Joy	1	0	3	14
Vingt-trois	0	0	0	9
More Trouble	0	0	1	3

CLASS Q, SPECIAL.

Gloria	3	0	0	20
Careless	0	3	1	9
Spots	0	2	0	8
Truant	0	0	3	7

HANDICAP CLASS, FIRST DIVISION.

	1st.	2d.	3d.	Pts.
Thelema	2	1	2	20
Tanya	2	1	1	19
Naiad	1	1	2	17
Marguerite	0	1	0	7
Little Peter	0	1	0	6

HANDICAP CLASS, SECOND DIVISION.

	1st.	2d.	3d.	Pts.
Rascal	3	1	1	2
Busy Bee	1	2	2	2
Howdy	1	2	2	1
Dolly Roger	0	0	0	0
Scamp	0	0	0	0

REEFED DOWN—SLOOP GARDENIA IN THE 25-MILE BLOW WHICH CHARACTERIZED THE LAST DAY OF RACE WEEK AT LARCHMONT.

HANDICAP CLASS, THIRD DIVISION.

	1st.	2d.	3d.	Pts.
Arrow	1	0	2	137
Bat	1	1	0	33
Monsoon	0	2	0	32
Kenosha	0	1	0	29
Wink	0	0	0	26
Mlle. Modiste	1	0	1	24
Montauk	1	0	1	24
Grace II	1	0	0	21
Okee	0	1	1	17
Miss Modesty	0	0	0	14

SLOOPS, CLASS R, 15 TO 18 FEET.

Hamburg	1	3	1	45
Ogeemah	3	0	1	38
Ace	0	0	1	36
Mist	0	1	0	26
Nora	0	0	2	23
Hun	1	1	0	19
Virginia	0	0	0	0
Exit	0	0	0	0

Cat boats, 18-foot class—Grace, 1 first 2 seconds; White Lady, 1 first 1 second; Thelma, 1 first 1 second; Arline, 1 first.

Manhasset Bay One Design Class—Arizona, 3 firsts; Chichioker, 2 firsts.

Indian Harbor Knockabouts—Wa Wa, 3 firsts; Anawanda, 2 firsts.

New Rochelle One Design Class—Mischief, 2 firsts 2 seconds; Nereid, 2 firsts 1 second; Echo, 1 second.

Port Washington One Design Class—Viva, 2 firsts 1 second; Finis, 2 firsts 1 second; Trix, 1 first; Zip, 1 second; Rhode Island One design Class—Lady G, 4 firsts; Mystic, 1 sail over.

Manhasset Bay Bugs—Skeeter, 2 firsts 1 second 2 thirds; Big Bug, 2 firsts 1 second, 1 third; Dragon Fly, 1 first 3 seconds 1 third.

New Rochelle Catboats—Fun, 4 firsts.

Riverside Catboats—Teal, 2 firsts, 2 seconds; Nilo, 2 firsts; Doahmi, 2 seconds 1 third.

Indian Harbor Catboats—Nancy, 2 firsts; Frolic, 2 firsts; Ace, 1 first.

Milton Point Catboats—Inez, 2 firsts.

Special Match—Arrow, 2 firsts, 1 second; Bat, 1 first; Miss Modesty, 1 second.

Sea Cliff One Design Class—Spoonbill, 1 first.

Huguenot Larks—Kazaza, 1 sail over.

Schooners, Class D—Katrina, 1 first.

AMERICAN YACHT CLUB REGATTA.

SCHOONERS, CLASS D, 80 TO 90 FEET—COURSE, 18½ MILES—START, 1.40.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Queen	5 06 29	3 26 29
Ingomar	5 10 37	3 30 37

Corrected Time—Ingomar, 3.30.37; Queen, 3.25.58.

SLOOPS, CLASS J, 57 TO 68 FEET—COURSE, 18½ MILES—START 1.45.

Effort	5 24 37	3 39 37
Neola	5 26 10	3 41 10

Corrected Time—Effort, 3.38.18; Neola, 3.41.10.

SLOOPS, CLASS K, 48 TO 57 FEET—COURSE 18½ MILES—START, 1.50.

Winsome	5 19 37	3 29 37
Aurora	5 22 23	3 32 23
Istalena	5 23 22	3 33 22

Corrected Time—Winsome, 3.29.31; Aurora, 3.32.12; Istalena, 3.33.22.

N. Y. Y. C. 30-FOOTERS—COURSE, 18½ MILES—START, 2.00.

Nepsi	5 54 21	3 54 21
Adelaide	5 54 58	3 54 58
Alera	5 57 50	3 57 50
Minx	6 00 16	4 00 16
Banzai	6 08 23	4 08 23
Hera II	Did not finish.	

LARCHMONT 21-FOOTERS—COURSE, 9¼ MILES—START, 2.05.

Dorothy	4 25 35	2 20 35
Vaquero	4 25 40	2 20 40

HANDICAP CLASS—FIRST DIVISION—COURSE 9¼ MILES—START, 2.05.

Thelema	4 25 48	2 20 48
Tanya	4 28 16	2 23 16
Naiad	4 30 28	2 25 38

HANDICAP CLASS—SECOND DIVISION COURSE, 9¼ MILES—START, 2.05.

Howdy	4 22 42	2 17 42
Rascal	4 28 23	2 23 23

HANDICAP CLASS—THIRD DIVISION COURSE, 9¼ MILES—START, 2.05.

Arrow	4 27 31	2 27 31
Monsoon	4 29 35	2 24 35
Grace II	4 32 49	2 27 49
Wink	4 34 00	2 29 00

RACEABOUTS—COURSE, 9¼ MILES—START, 2.10.

Chinook	4 22 53	2 12 53
Tomboy	4 23 22	2 13 22
Pretty Quick	4 23 34	2 13 34
Rascal III	4 27 05	2 17 05

NEW ROCHELLE ONE DESIGN CLASS COURSE, 9¼ MILES—START, 2.20.

Neried	4 17 53	1 57 53
Arab	4 33 20	2 13 20
Mischief	4 34 53	2 14 53

SLOOPS—CLASS Q—18 TO 22 FEET—COURSE 9¼ MILES—START, 2.15.

Capsicum	4 20 27	2 05 27
Dorothy	4 27 ½ 41	2 12 41

SLOOPS—CLASS R—15 TO 18 FEET—COURSE 9¼ MILES—START, 2.15.

Okee	4 37 13	2 22 13
Arizona	4 39 46	2 24 46
Hamburg	4 37 18	2 22 18

BUG CLASS—COURSE, 7 MILES—START, 2.20.

Big Bug	4 25 29	2 05 29
Lady Bug	4 29 18	2 09 18

AMERICAN Y. C. DORIES—COURSE, 7 MILES START, 2.20.

Tautog	5 20 07	3 00 07
Temora	6 14 24	3 54 24
Molly	5 37 53	3 17 53
Bobo	5 41 07	3 21 07
Faraway	Did not finish.	

HUGUENOT LARKS—COURSE, 7 MILES START 2.15.

Kazaza	4 29 23	2 14 23
Crosspatch	Did not finish.	

RIVERSIDE YACHT CLUB REGATTA

HANDICAP CLASS—FIRST DIVISION—COURSE 18 MILES—START, 12.45.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Tanya	4 03 26	3 18 26
Little Peter	Carried away mast.	

RACEABOUT CLASS—COURSE, 14½ MILES START, 12.50.

Pretty Quick	3 40 50	2 50 50
Tomboy	3 54 11	3 04 11
Chinook	3 39 39	2 49 39
Rascal III	3 39 03	2 49 03

THIRD DIVISION—HANDICAP CLASS COURSE, 14½ MILES—START, 1.00.

Huntress	3 54 38	2 54 38
Monsoon	4 02 45	3 02 45
Mlle. Modiste	4 07 44	3 07 44
Montauk	4 22 14	3 22 14

Corrected Time—Huntress, 2.54.38; Monsoon, 2.59.15; Mlle. Modiste, 2.59.00; Montauk, 3.19.37.

CLASS Q—COURSE 14½ MILES—START, 2.05

Dorothy	3 49 45	2 44 45
Capsicum	3 50 10	2 45 10

CLASS R—COURSE, 14½ MILES—START, 2.05

Hamburg	4 34 40	3 29 40
Okee	Did not finish.	

CLASS R CATBOATS—COURSE, 14½ MILES START, 1.05.

Arline	Withdrew.	

CLASS S—COURSE, 5 MILES—START, 1.10.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Hun	2 20 32	1 10 32
Exit	2 25 04	1 15 04

RIVERSIDE ONE DESIGN CATS—COURSE 5 MILES—START, 1.10.

Doahme	2 33 46	1 23 46
Teal	2 28 39	1 18 39
Dooley	Disabled.	
Gitty	2 27 16	1 17 16
Nilo	2 27 42	1 17 42

Gitty protested by Teal for fouling buoy.

INDIAN HARBOR ONE DESIGN CATS—COURSE 5 MILES—START, 1.10.

Wacoutah	Did not finish.	

BUG CLASS—COURSE, 5 MILES—START, 1.10.

Skeeter	2 29 45	1 19 45
Big Bug	2 31 33	1 21 33
Lady Bug	2 43 22	1 33 22

NEW ROCHELLE ONE DESIGN CLASS COURSE, 5 MILES—START, 1.15.

Mischief	2 40 19	1 25 19
Echo	2 45 47	1 30 47

BELLE HARBOR YACHT CLUB.

SLOOPS, SPECIAL CLASS—COURSE, 8 NAUTICAL MILES—START, 4.30.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Coote	6 12 00	1 58 00
Uno	6 17 00	1 57 00
Glad Hand	6 19 45	1 59 45

BENSONHURST YACHT CLUB.

SLOOPS, CLASS P, 22 TO 27 FEET—COURSE 10.5 MILES—START, 3.05.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Sue	5 06 29	2 01 29
Sakana	5 13 01	2 08 01
Miana	Withdrew.	

Corrected Time—Sue, 2.01.29; Sakana, 2.08.01.

SLOOPS, CLASS Q, 18 TO 22 FEET—COURSE 10.5 MILES—START, 3.10.

Joy	5 15 21	2 05 21
Soya	5 15 49	2 05 49
Spider	5 17 03	2 07 03
Vingt-trois	5 21 40	2 11 40
More Trouble	5 22 34	2 12 34

AVENGER, WINNER OF THE ASTOR CUP RACE—SHE WAS DESIGNED AND BUILT BY THE HERRESHOFFS THIS YEAR AND WITH THE FUTURE CONSTRUCTION OF AN AMERICA'S CUP DEFENDER IN VIEW—HER VICTORY INDICATES THAT SPEED HAS NOT BEEN SACRIFICED BY THE OBSERVANCE OF THE UNIFORM RULE.

AMERICAN YACHT CLUB DORIES—COURSE, 5 MILES—START, 1.15.

Tautog	3 00 40	1 45 40
Bobo	3 06 54	1 50 54
Ruth	3 10 52	1 55 52
Z. 9	Did not finish.	

SEAWANHAKA 15-FOOTERS.

FOR 15-FOOTERS S. C. Y. C.—START, 3.20.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Grayling	4 54 50	1 34 30
Flitter	4 56 00	1 36 00
Imp	4 56 10	1 36 10
Sabrina	4 57 20	1 37 20
Thelema	4 57 22	1 37 22
Bobs	4 52 38	1 32 38

SLOOPS, CLASS Q, SPECIAL—COURSE, 8 MILES—START, 3.15.

Careless	5 08 19	1 53 19
Truant	5 06 47	1 51 47
Spots	5 16 35	2 01 35

Corrected Time—Careless, 1.53.19; Truant, 1.53.27; Spots, 2.00.24.

LIPTON CUP CLASS—SLOOPS, CLASS S, UNDER 15 FEET—COURSE, 8 MILES START, 3.25.

Bensonhurst	5 11 54	1 46 34
M and P	5 11 51	1 46 51
New Moon	5 14 05	1 49 05
Gunda	5 15 53	1 50 53
Nereid	5 15 57	1 50 57
Goblin	5 17 18	1 52 18
Blue Bill	5 18 35	1 53 35

GRAVESEND DORIES—COURSE, 4 MILES START, 3.25.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Ace	4 33 25	0 58 25
Deuce	4 34 53	0 59 53
Bobs	4 35 21	Disq.
Joker	4 38 04	1 03 04
Quack	Did not finish.	
Cherub	Did not finish.	

N. Y. Y. C. GLEN COVE CUPS.

SCHOONERS, CLASS B, 80 TO 90 FEET COURSE, 19¼ MILES.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Queen	2 36 34	2 26 34
Ingomar	2 39 24	2 29 24

Start—Queen, 12.10.16; Ingomar, 12.10.38.

Corrected Time—Queen, 2.25.11; Ingomar, 2.28.22.

SLOOPS, CLASS J, 57 TO 68 FEET—COURSE, 19¼ MILES.

Effort	2 54 26	2 27 26
Neola	2 57 27	2 30 27

Start—Effort, 12.27.00; Neola, 12.26.37.

Corrected Time—Effort, 2.19.16; Neola, 2.25.52.

SLOOPS, MIXED CLASS—COURSE, 19¼ MILES.

Effort	2 54 26	2 27 56
Neola	2 57 27	2 30 50
Gardenia	2 30 33	2 55 96

Start—Effort, 12.27.00; Neola, 12.26.27 Gardenia, 12.35.00.

Corrected Time—Effort, 2.19.16; Neola, 2.25.52; Gardenia, 2.25.26.

SLOOPS, CLASS K, 48 TO 57 FEET—COURSE, 19¼ MILES—START, 12.30.

Winsome	2 58 11	2 28 11
Istalena	Disqualified.	
Aurora	Withdrew.	

N. Y. Y. C. 30-FOOTERS—COURSE, 19¼ MILES—START, 12.40.

Adelaide	3 30 51	2 50 51
Banzai	3 32 52	2 52 52
Minx	3 33 49	2 53 42
Atair	3 34 33	2 54 33
Alera	3 35 06	2 55 06
Phryne	3 35 10	2 55 10

OPEN REGATTA COLUMBIA, (MASS.) YACHT CLUB.

CLASS C—TOPMAST BOATS.

	Corrected Time. h. m. s.
Violet	2 48 40
Emma C	2 17 33
Thialfi	2 25 25
Tourist	2 43 39
Sunward	3 00 46
Sadie B	3 02 53
Melka	3 03 23
Rival	Withdrew
Iseyl	Withdrew
Wayward	Withdrew

CLASS A—CABIN BOATS, 22 FEET WATER LINE AND OVER.

Atalanta	1 40 58	
Eleanor	1 44 39	
Hermes	2 06 41	
Alpha	2 12 02	
Arbutus	2 21 31	
Sentinel	2 16 10	
Eclipse	3 02 10	
Smilax III	Withdrew	
Marion	Withdrew	

CLASS B—CABIN BOATS, UNDER 22 FEET WATER LINE.

Sintram	2 03 39	
Goblin	2 36 13	
Poor Boy	2 40 47	
Thelga	2 40 56	
Vexer	2 46 33	
Opeeche	2 45 19	
No. 4, W. Y. C.	*	
Echo	Time not taken	
Linnett	Withdrew	
Ladye Faire	Withdrew	
Greyling	Withdrew	
Sheila	Withdrew	
Florence	Withdrew	

* Not measured.

CLASS D—CAPE CATS.

Arawak	2 32 03	
Almira	2 32 57	
Emilene	2 47 31	
Busy Bee	3 03 07	
Stranger	3 09 52	
C. C.	3 14 16	
Iris	3 14 52	
Dartwell	3 16 01	

CLASS E—OPEN AND SHALLOW CABIN BOATS.

I. X. L.	2 30 10	
Tess	2 34 34	
Wawenock	2 34 44	
Whisper	2 35 06	
Peter Pan	2 35 20	
Zoe	2 41 17	
Nan	Withdrew	

CLASS I—18-FOOTERS.

Aurora	2 53 18	
Yankee	2 57 12	
Dorchen	2 58 12	
Aspinquid II	2 58 56	
Fritter	3 02 10	
Mirage II	Withdrew	

TAPPAN ZEE YACHT CLUB.

OPEN SLOOPS—COURSE 3¼ MILES.

	Elapsed Time. h.	m.	s.
Vesta	1	03	20
"No. 23"	1	13	30
Blitzen	1	19	05

OPEN CATS—COURSE 3¼ MILES.

Gauntlet	0	57	42
Zoe	1	14	12
Hattie	1	13	08
Audrey	1	13	53
Alpha	1	19	10

OPEN LAUNCHES—COURSE, 3¼ MILES.

Ruth	0	32	40
Liria	0	34	00

CABIN LAUNCHES—COURSE CLUB HOUSE TO ROCKLAND LAKE LIGHT AND RETURN, 11⅓ MILES.

Helena	1	21	47
Helen	1	35	31

SPEED CONTEST—AUTO-BOATS—TRIANGULAR COURSE, 3¼ MILES.

Charles Coughtry	0	12	15
Flip	0	12	27

ATLANTIC YACHT CLUB.

SLOOPS AND YAWLS, CLASS P, 22 TO 27 FEET COURSE, 12 MILES—START, 3.05.

	Finish. h.	m.	s.	Elapsed Time. h.	m.	s.
Sakana	5	13	22	2	08	22
Sue	5	11	02	2	06	02
Hyperion	Did not finish.					

Corrected Time—Sakana, 2.04.44; Sue, 2.06.02.

SLOOPS, CLASS Q, 18 TO 22 FEET—COURSE 12 MILES—START, 3.10.

Soya	5	21	14	2	11	14
Spider	5	23	51	2	13	51
Vingt-trois	5	24	13	2	14	13
More Trouble	5	25	13	2	15	13
Joy	5	27	26	2	17	26

SLOOPS, CLASS Q, SPECIAL—COURSE, 8 MILES—START, 3.15.

Ondas	4	56	45	1	41	45
Spots	4	57	41	1	42	41
Careless	5	02	16	1	47	16
Truant	Did not finish.					

Corrected Time—Ondas, 1.41.45; Spots, 1.42.30; Careless, 1.46.56.

SLOOPS, CLASS S, UNDER 15 FEET—COURSE 8 MILES—START, 2.25.

M. and F.	5	09	45	1	44	45
Bensonhurst	5	09	54	1	44	54
Gunda	5	11	58	1	46	58
Nereid	5	13	35	1	48	35
Blue Bill	5	18	43	1	53	43
Goblin	5	19	09	1	54	09

GRAVESEND DORIES—COURSE, 4 MILES START, 3.35.

Masque	4	45	50	1	10	50
Bobs	4	46	30	1	11	30
Joker	4	46	45	1	11	45

BELLE HARBOR YACHT CLUB.

LEAVITT CUP RACE—COURSE, 21 MILES START, 10.45.

	Finish. h.	m.	s.	Elapsed Time. h.	m.	s.
Sabina	2	55	30	4	10	30
Kough Rider	3	36	30	5	11	30
Mohawk	4	02	30	5	17	30

Corrected Time—Sabina, 4.10.30; Rough Rider, 4.49.18; Mohawk, 5.07.52.

SPECIAL RACE—SMALL SLOOPS—START, 3.20

Coots	6	18	30	2	58	30
Uno	Did not finish.					
Glad Hand	Did not finish.					

RACE OF CLASS Q BOATS AT LARCHMONT. THE WINNER DOROTHY OF BALTIMORE WAS BUILT FOR THE KING'S CUP RACE AT JAMESTOWN.

AT CLOSE QUARTERS AND IN A POSITION WHERE A QUICK EYE AND STEADY HAND AND NERVE WILL DECIDE THE WINNER.

BROOKLYN YACHT CLUB.

SLOOPS, CLASS Q, 18 TO 22 FEET—COURSE 12 MILES—START, 3.10.

	Finish. h.	m.	s.	Elapsed Time. h.	m.	s.
Soya	5	50	40	2	40	40
Spider	5	56	20	2	46	20

SLOOPS, CLASS S, UNDER 15 FEET—COURSE 8 MILES—START, 3.25.

Bensonhurst	5	39	10	2	04	10
Nereid	5	29	46	2	04	46
M and F	5	31	54	2	06	54
Gunda	5	32	04	2	07	04
New Moon	5	34	20	2	09	20
Goblin	5	39	07	2	14	07
Blue Bill	5	40	25	2	15	25

GRAVESEND DORIES—COURSE, 4 MILES START, 3.35.

	Finish. h.	m.	s.	Elapsed Time. h.	m.	s.
Ace	4	54	00	1	19	00
Deuce	4	57	30	1	22	30
Bobs	4	59	40	1	22	40
Cherub	4	58	40	1	23	40
Masque	5	01	10	1	26	10
Joker	5	04	05	1	29	05

MANCHESTER (MASS.) YACHT CLUB RACE FOR 22-FOOTERS.

CLASS Q.

	Elapsed Time. h.	m.	s.
Little Rhody II	1	42	03
Dorothy	1	46	10
Essex	1	55	37
Orestes	1	56	06
Eleanor	1	56	53

HANDICAP CLASS.

Secret	1	53	00
Little Robin	2	03	51
Caramba	Withdrew		

DUXBURY YACHT CLUB.

	Time. h.	m.	s.
Again	1	31	45
Croatan	1	32	02
Osprey	1	32	12
Kittawake	1	32	28
Janice	1	37	56

BEVERLY YACHT CLUB REGATTA, BUZZARD'S BAY.

21-FOOT CLASS.

	Time. h.	m.	s.
Terrapin	1	54	22
Owl	1	55	20
Aminata III	2	00	18
Edith	2	05	22
Illusion	Withdrew.		

15-FOOT CLASS.

Wanderer	1	24	32
Jap	1	47	05
Wizard	1	51	44

15-FOOT CLASS.

Anita	1	29	32
Seeps	1	30	27
Yalu	1	32	58
Mongoose	1	35	27
Fly	1	35	31
Vim	1	37	51
Bantam	1	38	07
Peacock	1	38	47
Eaglet	1	39	59
Jub Jub	1	40	01
Jack	1	41	01

HULL (MASS.) YACHT CLUB.

ONE DESIGN 15-FOOTERS.

	Elapsed Time. h.	m.	s.
Nicknack II	1	44	55
Bonifor	1	46	25
Pals	1	46	50
Beata	1	47	40
Stymie	1	48	20
Smelt	1	49	00
Nutmeg	1	52	30
Shoofly	1	54	10
Tad	2	09	20
Meave	2	10	20
Eagle	2	13	10
Mink	2	13	20
Ariel	2	21	50

ANNISQUAM YACHT CLUB.

15-FOOTERS.

	Time. h.	m.	s.
Tabasco	1	50	20
Teaser II	1	51	20
Cigarette	2	14	40

QUINCY YACHT CLUB, POWER BOAT RACE.

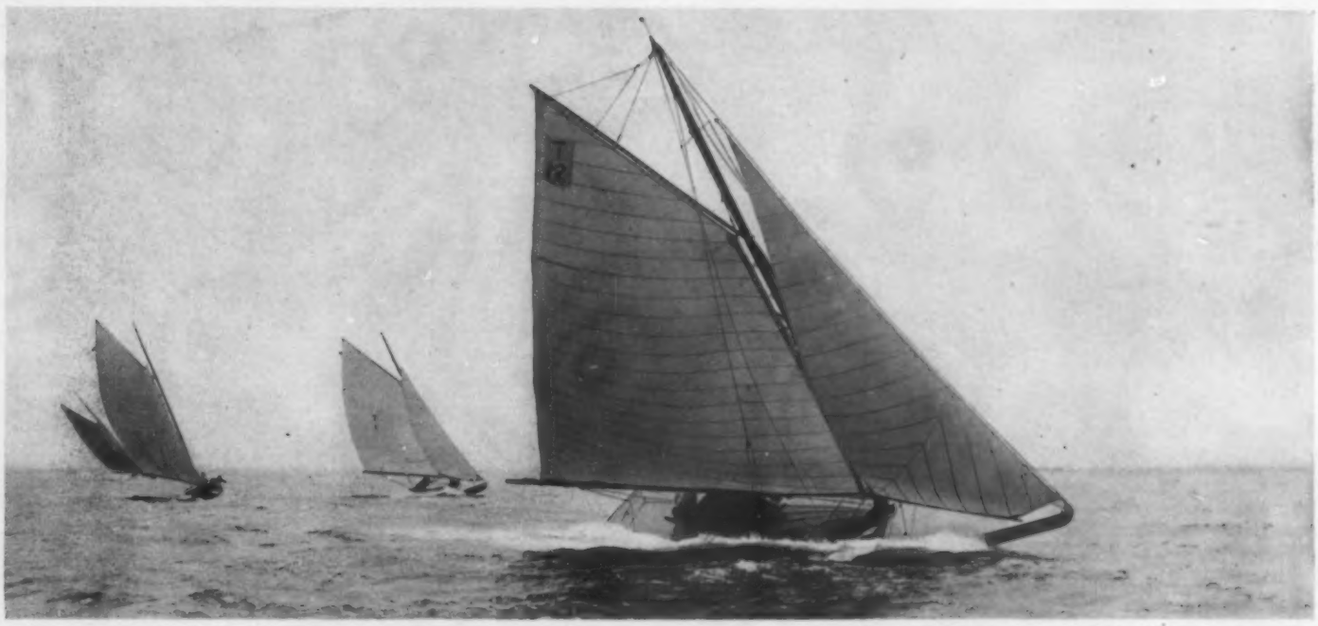
	Actual Time. m.	s.
No Name	37	00
Anna	40	20
Secret	43	30
Jennie	45	40
Lottie	46	30
UU	52	30
Nakomis	55	10

YACHT RACING ASSOCIATION OF JAMAICA BAY—OCEAN RACE.

SLOOPS, 30 TO 40 FEET—COURSE, 23 MILES START, 11.00.

	Elapsed Time. h.	m.	s.	Corrected Time. h.	m.	s.
Klyo	5	04	50	5	01	04
Cornelia	5	19	25	4	57	51
Phantom	5	19	25	5	12	25
Sparrow	5	33	23	5	20	56

SIWANOY—ONE OF THE ENTRANTS IN THE LARCHMONT MOTOR BOAT RACE. THE CONTEST WAS A FIZZLE BECAUSE ALL BUT FAIRBANKS II, THE WINNER, DID NOT SAIL THE PROPER COURSE.



A DASH OF THE LITTLE FELLOWS AT LARCHMONT, CHINOOK LEADING.

INTER-LAKE RACE AT PUT-IN-BAY, OHIO

CLASS A SUMMARY—CORRECTED TIME

MONDAY				TUESDAY				WEDNESDAY				THURSDAY				FRIDAY			
Mildred S	1	13	03	Invader	2	27	51	Enright	1	36	48	Invader	2	09	33	Enright	1	34	16
Elsie	1	16	07	Enright	2	30	18	Invader	1	38	44	Enright	2	12	42	Wrinkle	1	38	23
Wrinkle	1	17	26	Elsie	2	46	40	Elsie	1	41	36	Ethel	2	32	06	Invader	1	40	50
Invader	1	19	31	Mermaid	2	53	38	Ethel	1	43	17	Elsie	2	34	37	Elsie	1	47	35
Mermaid	1	26	16	Wrinkle	2	56	38	Mildred S	1	43	21	Wrinkle	2	35	13	Ethel	2	00	41
Enright	1	28	17	Mildred S	2	58	32	Mermaid	1	44	02	Mermaid	2	36	19	Mermaid	2	02	36
Ethel	1	32	48									Mildred S	2	49	01	Mildred S	2	34	59
21-FOOT CLASS SUMMARY—ELAPSED TIME																			
Spray	1	17	53	Spray	2	29	43	Spray	1	40	39	Spray	2	06	04	Spray	1	28	46
Borealis	1	19	36	Otsiketa	2	36	50	Cleveland	1	41	27	Borealis	2	14	57	Cleveland	1	33	21
Ste. Claire	1	20	01	Borealis	2	39	50	Ste. Claire	1	42	33	Ste. Claire	2	15	25	Borealis	1	34	16
Otsiketa	1	21	30	Cleveland	2	44	19	Otsiketa	1	43	33	Otsiketa	2	16	00	Ste. Claire	1	37	43
Cleveland	1	22	38	Ste. Claire	2	45	12	Borealis	1	43	14	Cleveland	2	16	17	Otsiketa	1	38	51
18-FOOT CLASS SUMMARY																			
Bonitwo	1	26	50	Bonitwo	2	59	19	Malillian	1	55	52	Bonitwo	2	38	48	Fannette	0	58	46
Fannette	1	27	21	Fannette	3	04	34	Fudge	2	00	13	Fudge	2	39	54	Bonitwo	0	58	51
Fudge	1	30	36	Malillian	3	04	49	Bonitwo	2	01	58	Fannette	2	47	33	Yankee	0	59	22
Yankee	1	31	59	Fudge	3	05	02	Fannette	2	05	01	Malillian	2	56	07	Fudge	1	00	01
Aladdin	1	33	21	Yankee	3	09	27	Yankee	2	07	28	Yankee	3	05	53	Malillian	1	02	32
Malillian	1	35	25	Aladdin	3	12	30												
16-FOOT CLASS SUMMARY																			
Hoorah	1	39	25	Sella II	3	01	13	Hoorah	2	02	59	Hoorah	2	58	42	Hoorah	1	04	10
Gamble	1	39	42	Hoorah	3	06	03	Sella II	2	03	51	Sella II	3	06	08	Gamble	1	06	03
Sella II	1	41	30	Gamble	3	14	27	Gamble	2	12	43	Unknown	3	16	59	Sella II	1	07	14
Mascotte	1	48	50	Unknown	3	16	03	Unknown	2	19	55	Gamble	3	20	18	Mascotte	1	11	22
				Mascotte	3	19	49	Mascotte	2	20	11	Mascotte	Did not Finish.						
CATBOAT SUMMARY																			
Frey	0	53	54					Frey	1	32	47					Frey	1	11	09
Grasser	0	55	37					Grasser	1	41	55					Grasser	1	15	55
Lang	0	56	14					Lang	1	41	55					Lang	2	05	50

(Continued on page 188)

ONE DAY IN THE FAMOUS LARCHMONT RACE WEEK DEVOTED TO "THE LADIES." THEY ARE HERE TO BE SEEN IN THE BEAUTIFUL CLUB GROUNDS WATCHING WATER SPORTS IN THE SOUND.

AN EXCITING MOMENT

PRINT IN BIN

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...NT ON ISTALENA.

BINDING

Some Hints About Laying Up

By HENRY IRVING DODGE

THE true sportsman takes as good care of his boat as he does of his horse. His motives for doing this are fondness and common sense in equal quantities—a rare combination. He "stables her down" and blankets her against the long night—a boat's night is when she is out of commission. He who neglects to do this realizes his blunder when he again makes ready to put her overboard. A good boat resents bad treatment and manifests it no less than a spirited horse. Under adverse laying up conditions she deteriorates rapidly. She loses the vitality and suppleness so essential to clever work. Any boat doctor who presides over a shipyard or basin can tell just how a craft has been wronged. It rarely happens that carelessness is the cause of damaged pleasure vessels—economy would preclude this. As a matter of fact, it may almost always be attributed to stupidity or ignorance. It is for owners thus afflicted that this article is written.

AN ILLUSTRATION OF METHODS OF COVERING BOATS SNUGLY FOR THE WINTER.

It is assumed that the owner of a valuable pleasure boat, if he be within convenient distance of a yacht hostelry, will put his craft in charge of the expert superintendent thereof. If, however, he be remote from such a place, he must rely upon his common sense. This may be supplemented by certain suggestions.

The first consideration is the selection of a favorable berth. It is a good scheme to run the boat up a creek, tributary to some arm of the sea, and pull her out beyond the reach of the abnormally high tides that "northeasters" drive into the bays and inlets. Here, if he decides to let her remain in the water, he should moor her from four stout stakes. Care must be taken that water be deep enough to prevent grounding and straining. Also, constant vigilance must be exercised that a considerable margin of free water—six inches at least—be maintained by chopping away the ice as fast as it accumulates. A salt water pool, beyond the wash of tides, is obviously more available than a creek or inlet. If the yacht be moored alongside a dock or another vessel, where there may be a small chop sea, she will chafe, unless properly guarded by fenders. The strain and other damage caused by this operation is apt to be great and may only be corrected at large expense. That a boat may be allowed to remain in the water throughout the laying-up season without bad results, provided reasonable precautions be taken, is generally conceded. In fact, some urge that it is beneficial. However, cedar boats do not come under this rule, and should invariably be hauled out for the winter.

A ROUGH CRADLE EASILY ERECTED.

If it be decided to put the boat high and dry, let it be understood that she should not be hauled, but carried or cradled to her winter berth. Take a 3-ton, short keel sloop as a good average example, and assume that the owner wishes to operate on a money-saving basis. He may cast about for some good stout pieces of timber from which he makes two bearers. The keel rests upon one of these; the bow on blocking built up on the other and made solid by 20-penny spikes. At the ends of the rear bearer shores are erected to support the bilge of the boat; but the pressure upon these must not be more than enough to maintain an even keel. Let it be remembered as an axiom: a boat must always rest upon her keel. The two bearers are connected by a stout chain, thus forming a cradle. Any old "sea drift" will answer for such a cradle and will cost no more than the trouble of collecting it. If the boat has a long bow and stern overhang care must be taken at the hauling out that she does not topple forward and bump her nose, or come a sudden cropper behind. When she is far enough out of water, of course her bow and stern must be shored up for the winter. The improvised railway may consist of two sets of two by four-inch sets of yellow pine planks, about twenty feet long each, to be used alternately as the boat is cradled to her permanent winter resting place. It seems unnecessary to suggest to a man who has horse sense enough to carry out the rest of this scheme, that this railway must be well smeared with grease, mud, or any other cheap lubricant.

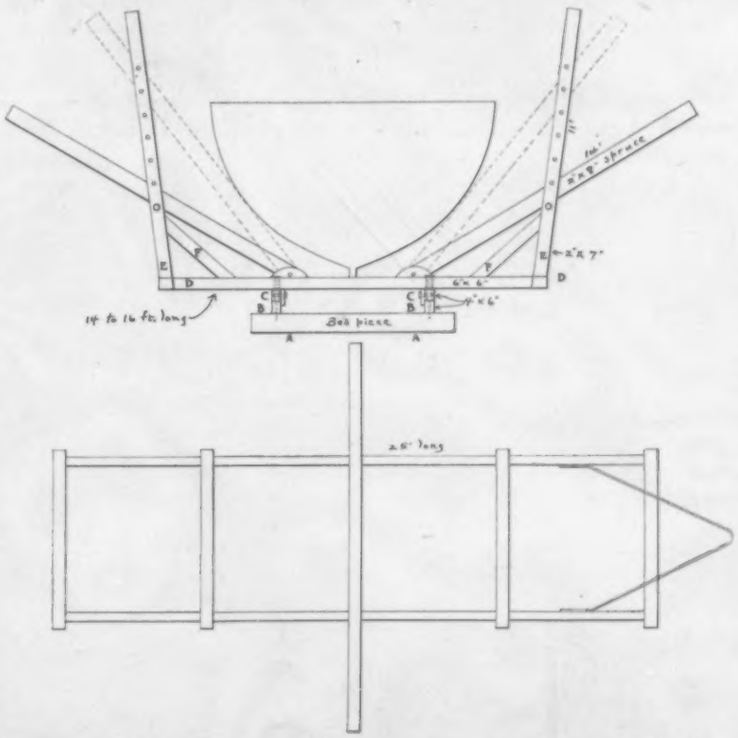
A much more economical method than the above, however, is the constructing of an inexpensive, yet permanent, railway and cradle that may be used year after year, conveniently taken to pieces and set up elsewhere, or transferred for a consideration to the man who buys the boat. Another advantage of this is that it may be used for overhauling purposes by the owner and his neighbors. As a matter of fact, it would probably be an easy matter to recoup the cost of this amateur dry dock—some $75—by letting it out for repair purposes during the season for action.

At a convenient distance inshore, is planted what is known as a "dead man." This is an anchor consisting of a heavy piece of timber or planking, six feet long, and having an opposing side of no less than ten inches. A trench is dug five or six feet deep and the piece of timber, around which is wound a cable or chain, is embedded at right angles to the line of the railway. It is understood of course, that

the foot of this railway will extend at least to low water mark, if not further, that the cradle may be submerged at high tide and the craft floated into it. Also observe that it must be located on a sufficient slope to bring its upper end far beyond the reach of the highest tides. A block and tackle are attached to the dead man and the cradle, and by this means the yacht is brought high and dry.

BOATS COVERED AND CRADLED FOR A HARD WINTER.

In the construction of a marine ways and cradle, common sense must be used to supplement any suggestions herein made. The bed pieces or mud sills (aa) may consist of sound railroad ties. These may be distributed according to the nature of the ground, sand requiring fewer than mud. The rails (bb) should be yellow pine timbers 20 feet by 4 inches by 6 inches. If it be necessary to use more than two lengths, they should not be laid "butt on" but sloped down, overlapped and spiked. These constitute what is known as the ground way. The rails should be fastened to the bed pieces with spikes counter-sunk. On these are laid rails (cc) of practically the same dimensions with flanges spiked on so as to prevent any sidewise motion of the cradle. These rails, called the slideway constitute the base of the cradle. They are fastened together with crosspieces at the end and intermediately. The center crosspiece (dd) is from 14 to 16 feet long, and of 6 by 6-inch yellow pine, the same as its shorter fellows. At the ends of this piece are uprights (ee) each consisting of two 2 by 7-inch spruce planks, let into the ends of the crosspiece so that the surfaces will be flush with those of the latter. At the upper end of this brace is a block of wood let in and fastened to the separate ends of the plank thus making a continuous slot. These uprights which are rigid are braced by short bits of planking also rigid (ff). Hinged to the center crosspiece are spruce arms (gg) 2 by 8 inches and some fourteen feet long which move up and down in the slot and are pegged fast at an angle to support the boat.



A practical plant such as is used in shipyards. This may be used for hauling out and repairing or may serve as a winter berth for a yacht. It can be built at small expense and so constructed that it can be taken apart—cradle-ways and all, transported and set up elsewhere.

The process of dismantling now begins. All movable things, articles of value, nautical instruments, and the like are taken to a place of safety. Cabin furniture, carpets, bedding, and all material subject to mildew should be stored in the garret of the owner's house. The usual rowboat attached to the yacht may be carried to the loft of the stables. In storing it, care should be taken that its weight be evenly distributed, that it may not "weigh or warp" out of shape.

Sails should be spread upon grass or sand for eight or ten hours during a sunny day and thoroughly dried that there may be no sweating or mildewing. They are then rolled up and put into canvas bags and if deposited in a dry place, will require no further attention. Englishmen put their sails upon rat-proof platforms. In the spring, however, it is wise to give the canvas mildew-proofing treatment. This task is not a difficult one nor is it expensive.

It is not necessary to take out the mast, unless it is necessary to inspect the step. But the spars—booms and gaffs—should be placed in a loft, away from the "weather" and so suspended or laid out that their weights will be evenly distributed and twisting or warping prevented. The mast and bow-sprit should be slushed liberally with a mixture of tallow and white lead. In the spring this coating may be removed with gasolene or scraped off. At any rate, its presence facilitates the removal of the old varnish, preparatory to a new coat. If it be not convenient to remove the spars to a loft the boom may be converted into a ridge pole, supported at the rear by the crotch. Upon this the gaff is laid and lashed and over the two is spread the tarpaulin or canvas housing or tent. When this is done it is wise to support the improvised ridge pole by crotches or blockings at intervals of a few feet. Tarpaulin is preferable, but may be objected to on the ground of expense. In this case, old canvas well painted will serve the purpose.

To provide against sweating, the owner should visit his boat on sunny days and open up the port-holes and cabin doors and forecastle hatch and let the air circulate through her for several hours. Some men lock their boats up tight and keep them so

all winter and are surprised in the spring to find the paint hanging in shreds, literally sweated off the wood.

Preparatory to the cleansing of a boat, her ballast should be removed, freed of rust and treated to a coat of red lead. The yacht must now be skinned down, that is: her lockers must be opened and as much of her interior planking as possible be lifted, her bilge must be thoroughly scoured with hot water and soap, dried and painted. The planking should not be replaced nor the lockers closed during the winter. Outside, she must have a coat of paint made up mostly of oil. This is absolutely essential, no matter whether she is hauled out or allowed to remain in the water. The paint will prevent her drying out too quickly. Neglect of this precaution will necessitate three or four weeks to "swell her up tight" in the spring.

The centerboard should be taken out under any circumstances, and the slot thoroughly cleansed of "sea accumulation." The board so laid as to preclude warping will thus dry out and any worms with which it may be infested will be killed by weather.

The first part of the operation of laying up a motor boat is to thoroughly cleanse her bilge. One should go through the entire boat, covering with vaseline or a mixture of white lead and tallow all brass work and railing, which should be afterward enwrapped with canvas.

Then comes the motor. All tanks and reservoirs should be drained—gasolene, water and oil—and particular care should be taken to get all the water out of the cooling system. It is a good plan to remove all small brasswork—carbureter, cocks and other fittings—and stow them carefully together where they will not get lost or stolen. Such movables are a favorite form of loot with boat thieves. It will save a good deal of bother in the spring if the cylinder is well washed out with kerosene and then liberally dosed with oil to prevent corrosion. Every part of the motor should be coated with some good rust-preventative.

Go over the whole motor, if possible, and look for excessively worn parts or fittings in need of attention, and make a list, if necessary, of the jobs that should be done before going into commission. Then the work can be done at convenient times through the winter. This will save the usual wild rush at the last moment and will also give plenty of time for doing good work instead of hurrying and scurrying and perhaps getting into the water late after all. Pay special attention to the ignition system, whether it be of the jump spark or the make-and-break type. The plugs should of course be removed, if the high-tension system is used, and coils, instruments and batteries put carefully away. Dry cells will merely be thrown out, of course, but storage batteries should be overhauled, put in good condition and charged. Wet cells should be emptied, washed and put away dry.

If a reversing gear is used wash out the oil, and slush all parts with rust preventative; take a look at the gear teeth and see how they have stood the season's wear. See that there is no danger of rust-stains getting on the nicely finished wood-work, and also that there will be no dripping of oil—that is, if you are particular about the boat's appearance. Last of all, cover up the motor with the usual heavy canvas cover.

The Canada's Cup Races

SENECA, defender of the Canada's Cup, won on the 13th of August the third race of the series of five against the challenger Adele, built from plans by A. E. Payne.

It had been arranged that the first, third and fifth races should be over triangular courses eighteen miles in length; the other two, sixteen miles, windward and leeward.

The official time was as follows:

First Race—Start—Adele, 1.00.25; Seneca, 1.00.31. Finish—Seneca, 5.58.22; Adele did not finish.

Second Race.—Start—Adele 11.30.00; Seneca, 11.30.05. Finish—Seneca, 2.51.16; Adele, 2.56.54.

Third Race.—Start—Adele, 11.15.10; Seneca, 11.15.13. Finish—Seneca, 2.31.50.

The contest was probably the most significant of the events sailed for this trophy, since the participating yachts were built under the new American rule, this being the first race in which designers from both sides of the Atlantic have competed under the rule. As the challenger and defender in the next America's Cup Race will be built under this rule, the designers of both countries watched the work of the boats. To defend the Canada's Cup this year, three boats were built and sent over from the other side: Adele, Crusader and Aileen designed by Payne, Fife and Mylne, respectively. The defender, Seneca, was designed by Herreshoff. In model she is like Eleanore and Avenger of the same designer.

SENECA, WINNER OF THE CANADA'S CUP.

In 1896 the Dominion yachtsmen formed a syndicate and directed it to produce a boat with which to battle for the cup. Canada was the result. This move caused the Chicagonians to take notice; a few leading sportsmen of that city combined and produced Vencedor, designed by Poeckel.

The meeting took place off Toledo. Canada won by twenty-two minutes and forty-four seconds corrected time. In the second race Vencedor finished in the lead but lost on time allowance. Then the Canadians offered the trophy as a perpetual challenge cup for yachts.

In 1899 a Rochester syndicate built Genessee, to sail against Beaver. Genessee won all three of the races which were sailed off Toronto. In 1901 the Canadians sent Invader against Cadillac and she carried the cup home with her. In 1903 the Rochester Yacht Club had Gardner design Irondequoit to contend for the cup; the Canadians built Strathcona. The Canadian boat won the first two of the series but lost the succeeding ones, and the cup. The Canadians came back at us in 1905 with Temeraire designed by Fife but Iroquois from the shop of Herreshoff proved one too many for them. So the contest goes on—the results varying enough to constantly contribute to the spirit of the sport.

A full account of these races by one of the participants will appear in YACHTING for October.

IN JOCKEYING FOR THE START THE FAIR OYSTER BAY SKIPPERS DISPLAY KNOWLEDGE OF THE FINE POINTS OF THE SPORT.

Women Who Sail

IN THE last Ladies' Day Race of the Seawanhaka Yacht Club, the latter part of July, the American woman again demonstrated her efficiency as an all round athlete. In these races which the club has held for several years, wives and daughters of members act as masters. The last event was for 15-footers of the knockabout type, nor was it in any sense "an idle matter of a summer day." On the contrary, half a gale swept Oyster Bay, curling the surface of the water into white caps. Notwithstanding this, seven craft started and five finished. Each boat was of course commanded by a woman, each one carried a crew of two men. These, however, were mere helpers and were neither permitted to handle the tiller nor make suggestions.

MISS ROOSEVELT SAILING GRILSE.

The course was eight and a half miles out against the wind, a run back and repeat. The start was made at three-thirty. Each woman skipper manœuvered for position, awaiting the signal, and when that was given, instantly availed of any advantage her skill and daring had given her. Mrs. Wood, daughter of Commodore Ketterly, won in H. H. Landon's Imp. Her seamanship in the beat to windward was a first rate bit of work. Notwithstanding the heavy weather, the skipper of Imp carried a full mainsail, while most of the other commanders discreetly took in a single reef. Captain Wood, having secured a windward position at the start, availed of every squall that smote the bay and drove her craft's lee rail seething through the water. From the start Imp outfooted the field. On the second leg to windward, however, Thelma's skipper unreefed and that clever boat began to pull up on Imp, but the move was too late and Imp finished two and a half minutes ahead.

IMP WHICH MRS. WOOD SAILED TO VICTORY IN OYSTER BAY.

Captain Wood did the eight and a half miles in one hour and nine minutes. The other boats to finish were W. A. W. Stewart's Bobs, sailed by Miss Stewart; E. C. Henderson's Flicker, under command of Miss Nichols; and W. Emlen Roosevelt's Grilse, handled by Miss Roosevelt. It is not known just which yacht club inaugurated Ladies' Day racing. The Seawanhaka has been identified with this peculiarly chivalrous form of sport for many years and has developed some mighty clever women sailors. Veteran yachtsmen are apt to treat the matter with little seriousness. Some claim that the presence of the two men on board each craft detracts from the victory; that the men suggest and direct the handling of the tiller and sails, even if they do not actually perform the work. But this is libellous, particularly in the case of the Seawanhaka women, who are really foul weather sailors.

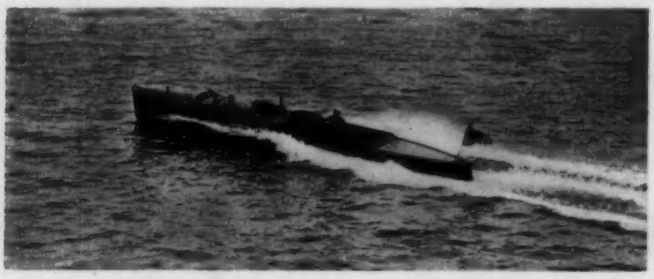
Ladies' Day racing with the Atlantic Yacht Club is also a notable success. This club usually holds a series race—two out of three—once a year, in which four or five boats compete. In 1902, Commodore R. E. Tod offered an annual prize. Such races were also held by the Indian Harbor Yacht Club last year and the year before, but owing to the length of the course and other conditions, such an event has not been announced as a part of this year's schedule. It is understood, however, that such a race may be improvised any day when conditions are peculiarly favorable.

The Larchmont Yacht Club has its regular racing day for women every summer. As a matter of fact, almost every club in the country has followed the example of the Seawanhaka in the matter of encouraging boat sailing by women. The influence has been considerable. Many women have actively engaged in the sport, who formerly suffered a wholesome fear of deep water. Many now not only handle, but own boats, and some are clever skippers.

START OF THE RACE FOR THE BRITISH INTERNATIONAL CUP. DIXIE GETS OFF WELL IN THE LEAD.

The International Motor Boat Races

BRITISH and American motor boats met in friendly rivalry at Southampton, England, on August 2d, for the first time. On that day Commodore Schroeder's Dixie captured the British International Cup. Dixie raced against Lord Howard de Walden's Daimler I and Daimler II. These were the only contestants, although it had been hoped that the fast French boats, Panhard-Tellier and La Rapier would challenge. It seems that the applications of these two boats were made but the time for receiving them had expired and the Motor Boat Club of America declined to permit an extension, holding that ample time had been allowed the Frenchmen in which to enter their boats.



DIXIE AT FULL SPEED ON THE SECOND ROUND.

Dixie made the course of thirty-five miles in one hour fifteen minutes and forty-four seconds making an average speed of 27.6 knots and 31.8 statute miles. At the finish she led Daimler II a mile. The latter's time for the course was one hour seventeen minutes and twenty-five seconds.

Dixie is 39 feet long and 5 feet wide and she has a 4-cycle eight cylinder engine of 132.72 horsepower.

The British International Cup will now be handed over to the Motor Boat Club of America.

HAIL TO THE VICTOR—CROWD GREETING SCHROEDER BOAT.

The trophy known as the British International Cup was presented by Alfred Harmsworth, Lord Northcliff, some four years ago. It is a massive, oblong cup mounted on a base of ebony which is overlaid with bronze in the form of waves on which are two motor boats of solid silver. The cup has fancy silver discs on which are to be inscribed the names of the successive winners. The trophy has amply borne out the cosmopolitan purpose of its giver. The first race for which it stood was won by an English boat, the second by a Frenchman on a technicality and the third by an Englishman. It will be held here by the Motor Boat Club of America, this club being responsible—by an understanding with the representative clubs of Europe—not only for American entries in events for the trophy, but for the safe keeping of the cup should it be won by any American club. It is understood that the course of the next race will be on the Hudson River, not only because of the advantages afforded by this water course to spectators over the "Sound" but of the likelihood that the Federal Government will police the course, this being an international event.

DIXIE, WINNER OF THE BRITISH INTERNATIONAL CUP. SHE IS OWNED BY COMMODORE SCHROEDER OF THE MOTOR BOAT CLUB OF AMERICA. AVERAGE SPEED FOR THE COURSE OF THIRTY-FIVE MILES, 31.8 MILES.

Dixie, having been accorded an ovation in Southhampton waters—greater, it is said, than any ever given a successful competitor in that section—was later put on the deck of the Minnetonka of the "Atlantic Transport" line and brought to New York.

British Yachting

HERR HULDSCHINSKY should be a proud German because for the second time in three years, Robert Wringe has navigated his Fife-designed schooner Susanne to victory in the Dover to Heligoland Race. Of her particular type, this is really one of the smartest two-stickers William Fife has ever designed, and naturally Wringe with a good boat to work on, keeps her in excellent condition and trim. This year the race was a plainly sailed one, and a large part of the way was fair before the wind. Under these circumstances, I think, the credit is not the schooner's although another schooner, the Soper-designed Clara finished no more than three minutes astern of Susanne. The real credit of this contest belongs in my estimation to Navahoe which finished first, beating both of the schooners by an hour and a half. She accomplished the long voyage in twenty-seven and a half hours, at the rate of 11.7 knots, putting up a record for the race. Yet the first prize went to a boat which finished an hour and a half astern of her, the second prize to a boat which finished four hours and three quarters astern of her, and the third prize to a boat which finished an hour and a half astern of her. To be frank, I think handicap yacht racing is the least satisfactory game under the sun, and these facts go to show that I am not very unreasonable. I do not say that Susanne got more time than she ought to have got on the facts which the handicapper allowed to weigh with him. Here, however, is the point, Navahoe is not a miracle. She is a fifteen-year-old boat in excellent trim and condition, thanks to Sycamore's care, and she sailed for 310 miles at the rate of 11.7 knots. That is her limit, and to make her give a boat two hours and three quarters, which ultimately finishes with one hour and a quarter of that to spare, is to ask her to do something which she obviously cannot do.

The allowances to all the different boats in a handicap are carefully worked out in fractions, so that the thing looks very well when you see it for the first time. The only thing left out of account is the ability of the scratch boat to do what she is asked to do. In this case, I am quite convinced Navahoe could not do what she was asked to do, even if half the distance had been to windward. There is plenty of room in the North Sea, and a modern schooner like Susanne could have turned to windward quite as well as the Herreshoff yawl could. Of late, Sycamore has had such bad luck in handicaps, that I marvel that he has persevered so long. Herr Watjen, the owner of the boat, is a thorough sportsman, and deserves the thanks of all Americans for the way in which he has raced the old Rhode Island yacht. However, neither Sycamore nor Herr Watjen need really give up hope of a Heligoland Cup. The terrible Fiona won one when she was forty years old—a performance which delighted the heart of old Mr. Fife in a way probably none of the earlier Fairlie triumphs did.

Mr. Miles Kennedy's ideally kept, and skilfully sailed Fairlie cutter, White Heather, continued her victorious career up the Irish Sea, finishing in Belfast Lough with twelve first prizes out of twelve starts. She thoroughly deserved the honors, being clearly the better boat. Last year's cutter of this class, Mr. Robert Young's Nyria, dropped out of the racing because her owner did not think the Yacht Racing Association's allowance was just to his boat. Sir James Pender's Gosport-built cutter Brynhild II. went cruising after the Royal Ulster Regatta, her owner apparently sick of her succession of defeats. White Heather was, therefore, left without a rival and had to return to the South. I have no inclination to insist that a gentleman cannot do what he likes with his own, but I am strongly tempted to observe that there is a want of sportsmanship here which is not at all British. If one wanted a boat to cruise in, one would not build a Brynhild, or a Nyria. Less costly craft would do, and probably do better than these delicate racers. The fact of the matter is that both Sir James Pender and Mr. Young were sick of the failures of their boats, and withdrew them on that account. A decade ago British yachtsmen did not do that sort of thing. The sport was the thing in their eyes, and they enjoyed it whether they were sailing miles ahead or miles astern. Quite clearly, if owners are going to back out whenever they begin to lose, legally drawn agreements to race the season through will be necessary before big boats are again built to a class.

Up to the time of this writing, the new eight-metre boats which Mr. Fife and Mr. Nicholson are building for the Solent season have not been seen out in races, so that it would be unwise to say anything about them. The Fife boat is Mrs. Allen's and is to be known as Sorais II. This boat was out the other day, canvas stretching, and the impression she gave onlookers was one of tenderness. Tenderness is not, of course, a drawback inside the Wight, but it is on some other racing grounds. In fact, some boats sail very much better on their side than otherwise. It is not unlikely that tenderness will also be the reproach of Mr. Nicholson's eight-metre boat, so that the alongshore expert whose theory is that the ideal yacht should be as stiff as a church steeple, will have to switch his conversation on to the deterioration of naval architecture in general.

ROBERT MCINTYRE, London.

Great interest is manifested in King Edward's new yacht Alexandra which was launched at Glasgow on the 30th of May and is now nearing completion. She is the first royal yacht built specially for turbine machinery, but is not the first fitted with turbines as that honor belongs to the Khedive's yacht Mahroussa, originally a paddle boat but recently converted by Messrs. A. & J. Inglis, the builders of the Alexandra. The first turbine yacht built for any owner was Emerald, constructed by Messrs. A. Stephen & Sons, Linthouse, Glasgow, for Sir Christopher Furness. This vessel was the first of the type to cross the Atlantic.

Alexandra is the second yacht of that name owned by King Edward. The first, built by Messrs. J. Harvey & Co., Wivenhoe, England, in 1869, when His Majesty was Prince of Wales, was a wooden screw vessel of 39 tons. After passing out of the hands of Royalty she was owned for a time by Mr. John Neill, Greenock, who sold her in 1890, and she is now owned in Norway. The new Alexandra is a steel vessel of 2000 tons displacement, 4500 indicated horse power, and 17 knots speed. She is nearly 300 feet over all, 40 feet in breadth, and 23 feet deep from the upper deck. She is rigged as a three masted schooner and has two funnels.

Previous to the launch of Victoria and Albert at Pembroke in 1899, the Royal Family of the greatest maritime power possessed very antique specimens in the way of steam yachts. The first Victoria and Albert was a paddle steamboat. Osborne, which will now be displaced by Alexandra as a family yacht, was also a side-wheeler, and was built at Pembroke in 1870. When it was decided to build the new Alexandra the usual practice of having royal yachts built in the Government Dockyards was departed from. Probably the experience in regard to Victoria and Albert may have had something to do with this. It will be remembered that after that boat was launched the advice of the late Mr. G. L. Watson was taken as to alterations with a view of improving the vessel. On the present occasion bids were asked from private firms, and a feature of the competition was that in each case the design was identified only by a motto, the name of the offerers being enclosed in a sealed envelope. The designs were thus dealt with entirely on their merits and without regard to builders or price. The design by Messrs. Inglis was chosen by the Admiralty Committee as specially suitable for the purposes intended, and when submitted to the King it met with his approval. The result was that the order for the yacht was placed with the Clyde firm in March, 1905. But the British Admiralty have their own ways of going about things. Even after the design had been chosen it was not a simple case of going straight ahead with the building of the vessel. Alterations were suggested here and there, and it is not far from the mark to say that Alexandra as launched bears comparatively little resemblance to Alexandra as originally planned. About the construction of the ship once it really got under way, the Admiralty observed the greatest secrecy, and no American Cup challenger was ever guarded more zealously from prying eyes.

LAUNCH OF ALEXANDRA, KING EDWARD'S NEW TURBINE YACHT.

Primarily the new yacht is intended only for the private use of the royal family. She is less than half the tonnage of Victoria and Albert, and her draft is sufficiently light to enable her to enter ports where the larger vessel cannot go, such, for instance, as Flushing and Nice. Alexandra is built with a top-gallant forecastle and bridge deck 150 feet long, extending to the sides of the ship, and carried on stanchions from the main rail. This deckhouse contains the reception room, dining room, and pantry. Abreast of the charthouse on the bridge deck are two small teahouses, with a clear view ahead and astern as well as over each side. The King's smoking room is under the bridge, where also inside the houses are the commander's, officers' and surgeon's cabins, and the sick-bay. On the main deck, abaft the

turbine room, are the royal apartments and rooms for secretary, equerries, and ladies-in-waiting. The cabin servants are berthed right aft on the main deck, the warrant officers abreast of the funnel hatch, and the royal kitchen is immediately in front of the boiler space. Next come the ward-rooms and the officers' cabins, while the crew are accommodated forward. On the lower deck there is additional crew space, and the auxiliary machinery, various store-rooms, the magazine and the baggage-rooms are also on this deck. The decoration of the principal cabins was entrusted to Messrs. Waring & Gillow, London, who had a free hand and have furnished the apartments with due regard alike to elegance and comfort. Alexandra has been fitted with three sets of Parsons turbines, driving three separate shafts, and supplied with steam from three Yarrow water-tube boilers.

The launching of Alexandra took place in bad weather, but in spite of the rain hundreds of spectators lined the river banks, and a hearty cheer was raised as the new royal yacht took the water. The religious ceremony usual at the launching of His Majesty's ships was observed, and the naming of the yacht was performed by Her Royal Highness Princess Louise, Duchess of Argyll. "Alexandra, good luck to you," exclaimed the Princess, as she broke the christening bottle on the vessel's prow.

THE CLYDE 12-METRE CLASS.

Class racing as recognized by the Yacht Racing Association has not been popular on the Clyde of recent years. This has been shown by the establishment of one-design groups like the 20-tonners, the 1-raters, the Innellan class of centerboard boats, the Gaels, and so on. Under the special rules of the Clyde Conference, the 19-24-foot class and the 23-30-foot class also enjoyed years of prosperity, and more recently a 30-foot class, with special restrictions, has been introduced. As a yachting center the Clyde has many advantages. The courses on the Firth are all laid out in deep water, with few shoals to trouble the unwary, while the tidal worries of the South Coast yachtsmen are practically unknown. Clyde winds are tricky, but that is only to be expected in an arm of the sea that is almost land-locked, with high hills on every side. The flushiness of breezes, too, lends additional sporting interest to racing. Not only do all Scottish yachtsmen grant pre-eminence to Clyde, but its attractions are recognized by many lovers of the sea who hail from the

KELPIE.

English side of the border, and enthusiasts have been known to travel from the South of England every week-end during the season merely for the pleasure of being at the usual Saturday fixtures. All these circumstances have combined for the maintenance of a numerous fleet of racers, and hence the establishment of local classes has been rendered possible. But while local classes have their good points, the advantages of recognized classes cannot be overlooked, and when the new international metre rules were adopted, the hope was widely held that the Clyde would support some of the new classes. So far the only result has been the adoption of two cutters and the building of a third for the twelve-metre class. The racers in question are Kelpie, originally built for the South Coast one-design class; Eileen, built for the proposed 42-foot class which never came to anything; and Heatherbell, specially built to the

EILEEN.

new rule. Kelpie is now in her fourth season. Altho is owned by Mr. George Coats, a Clyde yachtsman. It was intended that she should race with her class in the Solent, but after four or five matches she was brought north to Scotland and since has raced regularly in handicap events. Eileen was built three years ago for Mr. Sydney Mason, an English sportsman, but this year she was bought by Mr. Charles Mac Iver, who has owned several noted Clyde racers, including the 20-tonner Avalon and the 36-footer Barabel. Mr. Andrew Coats is owner of Heatherbell. Last season Mr. Coats raced Great Auk in the Clyde 30-foot class, and in previous years he took a large share in keeping alive the 52-foot class, racing Morning Star and afterward Balaena and Camellia which were at all of the British regattas. Mr. Coats, two or three years ago, took a cruise to Arctic Regions in his auxiliary yacht Pandora. He now owns the steam yacht Hecate, one of the latest vessels built to designs of the late Mr. G. L. Watson of Glasgow. Kelpie was built under special restrictions that were framed to produce comfortable cruising craft as well as racers. In this respect, she, to some extent, anticipated the new rule. On the other hand Eileen was intended for a racer, and is a good type of what was produced under the lineal rating conditions. The effect of the latest rule is shown in Heatherbell. She is higher wooded than Eileen, with shorter overhangs, and in accordance with the idea that stability gives security she has much heavier scantlings than the 42-rater. Kelpie and Eileen were built to the designs of Mr. Alfred Mylne, Glasgow. Heatherbell has been designed by Mr. T. C. Elen Coats, whose first essay in yacht architecture was the Clyde 30-footer Pallas, owned and sailed by himself. He was trained in Mr. Mylne's office, and while showing traces of Mylne influence he has at the same time no lack of originality. Last season, Pallas shared the honors of the 30-foot class with Thetis, a Mylne boat, owned by Mr. Harold Glen Coats. In the first race at the Royal Northern Regatta at Rothesay on June 21, Heatherbell showed herself a very fast craft. She burst her spinnaker in a run along the Cumbrae land in the first round, when holding leading place from Eileen, and on the run to Cumbrae—5½ miles to leeward—had to dispense with the big scudding sail. Nevertheless she finished about a couple of minutes after Eileen, the winner of the race. It was afterward learned that the new boat had been leaking all through the match, and in the circumstances her performance was the more creditable. Previous to Heatherbell's appearance Kelpie and Eileen sailed three matches. In her first race at Hunter's Quay, Eileen had an easy win in a moderate breeze. Before her next bout with her rival she was fitted with American hollow spars and a complete new canvas outfit. At Gourock the honors lay with Kelpie, the breeze on that day being fairly strong, although not too heavy for jackyard topsails. The third race was at Largs, on the opening day of the Clyde "Fortnight," and in a light and tricky wind Eileen was the winner once more. The fourth meeting was the race at Rothesay

(Continued on page 180.)

The Miami Race

By HARRY C. SMITH

IT IS safe to say there will never be another "flag to flag" race from Miami to Nassau. To secure an event that would look well on paper and afford an international flavor for last February's race, the most impracticable course in the wide world was chosen. Next winter there will doubtless be a similar affair from Miami, for racing boats, but it is sure to be toward Key West, through the shallow but safe waters of Hawk Channel. Crossing the usually turbulent Gulf Stream forty odd miles wide between Miami and Gun Cay was really the easiest part of the trip, although the shoal stretches on the Great Bahama banks, extending 80 miles beyond, are not bothersome to small craft, except in the event of a protracted storm.

The poser lies in finding the way into the Northwest Channel without going hard and fast aground on one of the innumerable sand bars spread out almost everywhere. In hazy weather the job is next to impossible. The race, therefore, really was from the Northwest Channel to Nassau, 55 miles. Such a course reduced the whole thing to mere luck, for even the Bahama pilots, raised on the banks, as it were, in thick weather are as helpless as navigators strange to the locality.

KLONDIKE, WHICH FINISHED THIRD IN THE RACE.

The British government has never located a buoy nor beacon on the entire route. The only marks are the lighthouses on Gun Cay and Hog Island, the latter at the entrance of Nassau harbor. Most of the small cays, mere rock strewn islets, look as much alike as peas and even "Old Man Hanna," the Bahaman pilot, who was on the winning auxiliary boat, Dagget, admitted that he did not know exactly where he was when the boat suddenly found herself slipping out of the shallow green waters of the treacherous banks into the dark blue of the longed for Northwest Channel.

Every craft in the race used more or less gasolene, but the only exclusively power boat, Lee S. of Jacksonville, was more than two days late in finishing after all sorts of delays and discouragements.

In the power division there was Lee S. (Captain Spencer) 25 horsepower, which gave Whiz, (Captain Norton) of New Haven, 14 horsepower, three hours time allowance, although the latter was permitted to use the small sails. In the auxiliary class were the sloop yachts Klondike, (Captain Ball) and Dagget (Captain Haggerty) each 10 horsepower and both hailing from Miami. I was aboard Klondike with Brainard T. and Charles A. Ball, brothers, who are among the surest and safest navigators of southern seas. That craft finished third, but subsequent testimony shows that the reckoning of the brothers was the closest among the contestants.

The first setback was the heavy weather which delayed the United States Gunboat Scorpion, the convoy. After the roughest voyage in Commander Kellogg's career, which caused him to twice seek port and reduced the total log one day to 40 miles, Scorpion finally made Nassau with her coal bunkers almost empty. The fuel she got there was unsuitable and soon exhausted, but it did not matter greatly, so far as the race was concerned, for the actual starters were of a type of boats that hardly needed an escort. Accordingly Scorpion did not accompany the racers.

The postponed race was attempted, three days later with the yacht Roamer, Commodore Roome of Jersey City and the launch Dorothy, Captain Frank T. Budge of Miami in one class and the auxiliaries, Klondike and Muriel in the other. The starting point was to have been at the gunboat, anchored in deep water, near the Fowey Rocks Lighthouse, but Muriel made no attempt to reach Scorpion. Instead, she took a distant tack over the reefs channel direct for Nassau. That action left Klondike without a competitor.

It did not matter, however, as the keen north wind had stirred the Gulf Stream to a point which made the test one of endurance, not speed. Consequently the race was temporarily called off and three days more elapsed before another start was deemed prudent.

The final start was made at 9 o'clock one Friday morning from the Royal Palm dock amid salutes from the city steam whistles of Miami and the discharge of Japanese day fireworks. It was mutually agreed to cut out the controls at Gun and Fraziers Cays, making the 180 statute miles a continuous run. The route out was through the government cut on Virginia Key and across the reefs to the Gulf Stream. The original objective point remained, however—Gun Cay. Klondike and Dagget met on equal terms. In about the middle of the Gulf Stream Lee S. dropped astern and toward 1 o'clock was lost to sight. Klondike passed between Gun and Cat Cays at 4 o'clock, Whiz being within hailing distance, while Dagget was a tolerably close third.

That brought them out of a run considered under certain winds to be the roughest stretch of water in the world. The Bahama banks are lonely, being fishless and spongeless and little frequented except as a short cut by craft of light draft. Until dark Whiz and Klondike alternated in taking the lead, with Dagget not far behind. About 10 o'clock the two leading boats lost track of each other, while Dagget disappeared in the twilight. Before midnight Klondike was forced to anchor for an hour to repair her circulating pump, after which the run was continued until 2 a. m. when the lead showed shoal water as might be expected on the eastern edge of the banks. So she anchored until daylight, which might give her a possible clue as to her exact position.

WHIZ. SHE FINISHED 40 MINUTES AFTER THE LEADER.

In the haze at 5.30 a. m. several cays could be seen at a distance. Then came the hardest job of all—to find a cut of sufficient depth through which to pass into the deep "tongue of the ocean." Developments showed that the tide, which flowing in different directions over the banks is hard to estimate, had carried Klondike a few miles further north than had been calculated. The Ball brothers, after taking some time to satisfy themselves that they were bearing in the wrong direction found themselves

NASSAU HARBOR JUST AFTER MIAMI RACERS FINISHED.

forced to run back ten miles or more and feel their way through to deep water.

They reached the dock at Nassau at 6.00 p. m. Saturday, the second evening after leaving Miami. Dagget by sheer luck had got through a narrow cut and was first in at 3.20 p. m., while Whiz was forty minutes later. Sunday and Monday passed without tidings of Lee S. Monday night her Captain, George F. Spencer, was brought in by a sponger, but without his boat. Lee S. had entirely missed the island, 15 miles long, on which Nassau is located and was making for San Salvador, when the gasolene ran out.

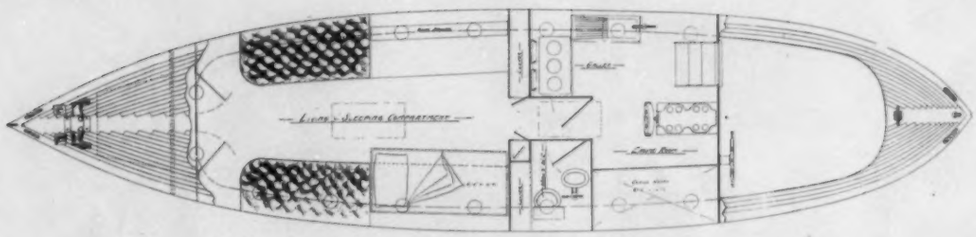
The Captain, knowing he was almost at the end of his rope, was making for a sponger at the time and had almost reached the boat when the engine gave its last kick. For three days and nights Spencer had scarcely closed his eyes. His nerves collapsed when the strain was over and tears ran down his cheeks. After the other boats had left Lee S. behind in the Gulf Stream, the sea increased and carried away the starboard light.

Instead of making Gun Cay, Spencer sighted Bimini, nine miles north, where a Bahama pilot swam out to the boat. The man's sight proved so defective, however, that he was useless. Four pilots were taken aboard, the other three from spongers, before Lee S. really reached Nassau. Captain Spencer ran about 400 miles, although the course is less than half that distance. The boat consumed more than 160 gallons of gasolene, and although there was a pilot and an engineer aboard, Spencer had to do practically all the work, even to washing dishes, although little eating was done.

There were any number of odd incidents on the trip.

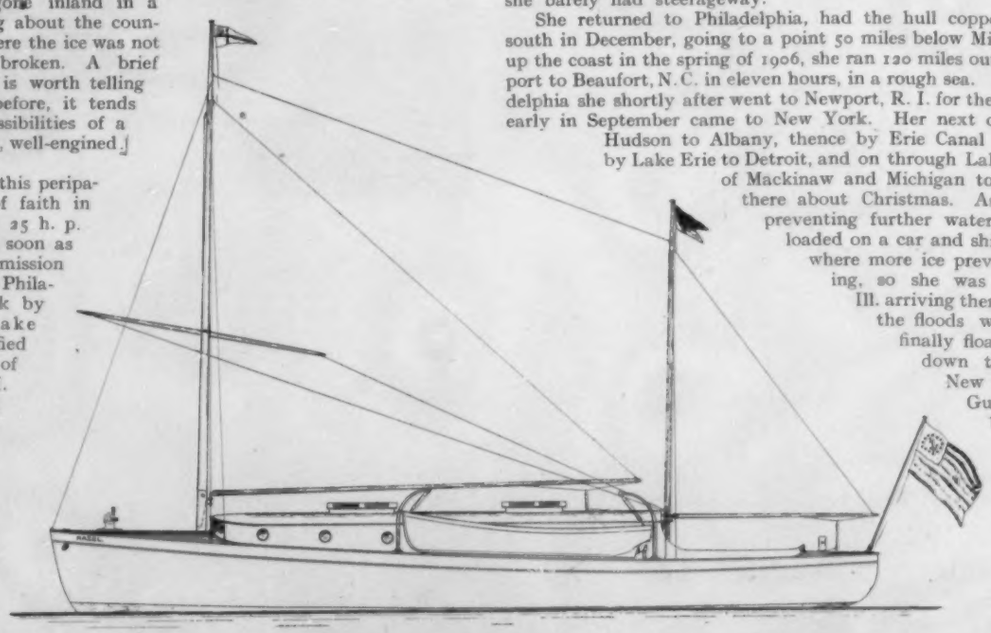
Nassau folks offered a small purse for a return race, but all hands had done enough sprinting. A friendly northwester delayed the return trip two days and gave the tired mariners a much needed rest and quiet. On the last 20 miles Miandanoah, the committee boat, had a spirited race with Klondike, the latter winning by ten minutes after choosing a shorter run through Bear Cut.

Plans of a Staunch Power Boat



THOSE who know the Hazel, and many a deep sea navigator has made her acquaintance, speak of her as a game, hard working boat, ready and willing to take all that comes to her in winter or summer. The possibilities of enjoyment for a man owning such a craft are well exemplified by the Hazel. She has been seen pounding in winter seas along the Atlantic Coast, she has won prizes in important races and has gone inland in a freight car, beating about the country for a river where the ice was not too thick to be broken. A brief story of this boat is worth telling if only, as said before, it tends to show the possibilities of a staunch, well-built, well-engined power craft.

Built in 1905, this peripatetic Hazel, full of faith in her hull and her 25 h. p. engine, started as soon as she went into commission on a cruise from Philadelphia to Norfolk by way of Chesapeake Bay. Not satisfied with the tameness of inside traveling, H. E. Dantzebecher, her designer and builder, took her out on the ocean, making Atlantic City, N. J. without mishap. After remaining here several weeks she towed six yachts of 35 feet length from Atlantic City to Seaside Park, a distance of 50 miles which she made in eight hours. The Hazel, it might be said, measured 46 feet over all, 10.6 beam and 3 feet draught. She carried auxiliary sail power of 635 feet area, and her owner, Thomas S. Parvin, has made her his home since she was launched.



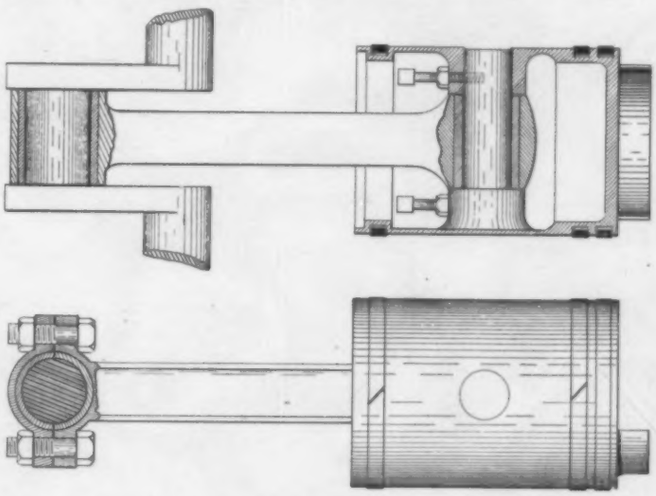
But to revert to her record: she left Seaside Park for New York for the Motor Boat Carnival in September, and came in second in her class, covering a 19½-knot course at the rate of 9½ knots an hour, being handicapped the last 3 miles by a broken barrel hanging to the rudder, so she barely had steerageway.

She returned to Philadelphia, had the hull coppered, and started south in December, going to a point 50 miles below Miami. On the run up the coast in the spring of 1906, she ran 120 miles outside, from Southport to Beaufort, N. C. in eleven hours, in a rough sea. Arriving in Philadelphia she shortly after went to Newport, R. I. for the summer and then early in September came to New York. Her next cruise was up the Hudson to Albany, thence by Erie Canal to Buffalo, thence by Lake Erie to Detroit, and on through Lakes Huron, Straits of Mackinaw and Michigan to Chicago, arriving there about Christmas. As ice had formed preventing further water travel, she was loaded on a car and shipped to St. Louis, where more ice prevented her launching, so she was sent on to Cairo, Ill. arriving there in January when the floods were on. She was finally floated, and went on down the Mississippi to New Orleans, thence to Gulfport, Miss., Mobile, Ala., Pensacola, Appalatchicalo, Tampa, Key West, Miami, Fla. and is at present at Savannah, Ga. on her way home, completing so far, in twenty-six months, a cruise of between 17,000 and 18,000 miles without breakdowns or engine troubles more serious than the wearing out of an exhaust pipe. This, surely, is a record that speaks eloquently.

The Practical Story of the Gasolene Motor—II

By LEWIS KINGSLEY

THE terms "internal combustion motor," "explosion motor," "gas motor" and so on are often heard when gasolene and similar engines are being spoken of. A gasolene motor is really a gas motor —or engine, as you please—for its fuel is taken into the cylinder in the form of a gas. The word gasolene specifies the exact fluid, the gas of which the motor is adapted to burn. The term internal combustion refers to the fact that the fuel is burned in a closed chamber in the engine itself, unlike the steam engine, for which fuel is burned in a fire-box communicating at all times with the open air. "Explosion motor" is a rather loose term, for the combustion of the charge in the cylinder partakes more of the character of progressive expansion than instantaneous explosion. In fact, the time required for the attainment of maximum pressure after the gas has been ignited is very appreciable, as will be explained later. The combustion is really very rapid, of course, as is indicated by the fact that small motors, of the four-cycle type, designed especially for high speeds, have been run as fast as 4,000 revolutions a minute. This means that there are a little more than 33 charges fired in a second, and that each charge, after ignition and expansion, must still leave enough of its thirty-third of a second to allow for its exhaust and for the intake and compression of another charge. Such a speed is not, of course, a practical working rate, but it serves to illustrate the amazing energy of this unassuming liquid when properly harnessed.



(1.) THE MOVING PARTS OF A TWO-CYCLE MOTOR. PISTON, CONNECTING ROD AND CRANK.

Showing bushings in both ends of connecting rod, wrist-pin retaining screws, piston rings in grooves, and split bearing at big end.

In the construction of a gasolene motor different metals are employed for different parts, because the characteristics that make a metal suitable for one class of duty do not always make it suitable for another. It fortunately happens that cast-iron, which is more largely used than any other one metal, is not only inexpensive, but possesses qualities which are essential to the successful operation of the motor. Cylinders, pistons and piston rings are always of cast-iron. In addition to the facility with which this metal can be cast into very intricate forms, it is easily worked in the lathe and planer, takes a good finish and, what is most important of all, a finished cast-iron surface under friction, properly lubricated, acquires a hard, glossy "skin," as it is technically called, which resists wear in a remarkable way and is so hard that it is difficult to work a file through it. Cast-iron is stiff and unbending and holds its shape well under any pressure it can withstand.

For bearings it is necessary to use a metal that will resist wear; its strength is a matter of little moment, ordinarily, because bearings are commonly supported by heavy parts of some stiff metal, such as cast-iron. Some of the best bearing metals are very strong indeed, however, bronze, for instance. On the other hand, some are very weak, as babbitt metal and the soft brasses.

For the crankshaft, connecting-rod and other parts subjected to sudden severe stresses, where brittleness would be fatal and yet where stiffness and rigidity are absolutely necessary, forged steel is used. Steel is a study in itself; there are more varieties and grades of metal, all called steel and yet possessing widely divergent qualities, than could possibly be enumerated here. Suffice it to say that the steel usually employed in gas engine work is soft enough to bend somewhat before breaking, and yet is extremely stiff and resists bending tendencies stubbornly. The builder generally arranges that his crankshaft shall be harder than the material of the bearings in which it turns, so that in case of failure of lubrication it will be the bearings, which are comparatively inexpensive and easily replaced, that will be damaged, rather than the crankshaft, which is often the most expensive single part of an engine. Some of the bronzes are not infrequently used in place of steel for such parts as connecting-rods and gears, and the proper grades give excellent results.

Aluminum, always alloyed with some other metal to give it strength without too greatly increasing its weight, is used for parts where lightness is essential. A good aluminum alloy has a strength about equal to that of cast-iron, and is excellent for crank cases, gear covers and the like. It does not stand wear well. In marine work it is not used nearly as extensively as in automobile practice, there being, as a rule, no objection to a few extra pounds weight in an ordinary boat. A racing craft is of course a different proposition, and here aluminum is often useful.

Bronze is particularly useful in parts that are subjected to the corrosive action of salt water, as it resists corrosion and is of ample strength. Therefore, circulating pumps and their connections are very often made of bronze, as well as a number of smaller parts and fittings.

It is the usual practice, in small and medium sized engines, to make cylinders with their water-jackets and heads in a single integral casting. Thus there are no joints to leak and require packing and the machine work is somewhat cut down. In some cases individual requirements make a separate cylinder head necessary. In very large engines the head is almost invariably a separate casting, made hollow for the circulating of the cooling water which passes up from the cylinder water-jacket, through suitable openings registering with corresponding openings in the head. Quite a number of engines are made with sheet metal water-jackets applied separately. A successful way of doing this is to insert the edges of the jacket into grooves cut in flanges cast on the cylinder. The space purposely left in the grooves is then filled with babbitt metal or copper, which, being soft, can be hammered and calked down to make a tight joint.

The inner wall of the cylinder, which receives the friction of the piston, is finished by grinding. An abrasive wheel, revolving at high speed, is caused to traverse the bore of the cylinder, just touching lightly the wall; the cylinder is at the same time rotated on its own axis. The result is a very smooth, even finish which is as near to absolute accuracy as it is practicable to get. Many engine builders state that the departure from absolute accuracy in roundness and in the parallelism of the bore does not exceed one two-thousandth of an inch.

The piston, also of cast-iron, is essentially a tube, open at one end and entirely closed at the other, of a length that is somewhat in excess of the length of its stroke or movement up and down in the cylinder. Several grooves—three is a common number, though more are often used—are cut in the piston, running completely around it; in each groove is a ring which fits the groove very snugly but not tightly. The ring is just a trifle larger than the bore of the cylinder, and is split so that when the piston is inserted in the cylinder the ring can be squeezed together sufficiently to let it in. The natural spring of the cast-iron of which the ring is made keeps it pressed outward against the wall, making a contact so close as to be almost air-tight. The pressing together of the ring almost completely closes the split. It is a common practice to put two rings, in their grooves, quite close together near the top of the piston and the third near the bottom. Sometimes a groove is made of double width and two rings put in, side by side, with the splits turned as far as possible from each other. The piston is fitted fairly close to the bore of the cylinder, being finished by grinding, as is the cylinder; but owing to the fact that metal expands when heated, it is necessary to make a little allowance to prevent the piston getting caught fast—"seizing"—in the cylinder when hot. The piston expands more than the cylinder because the

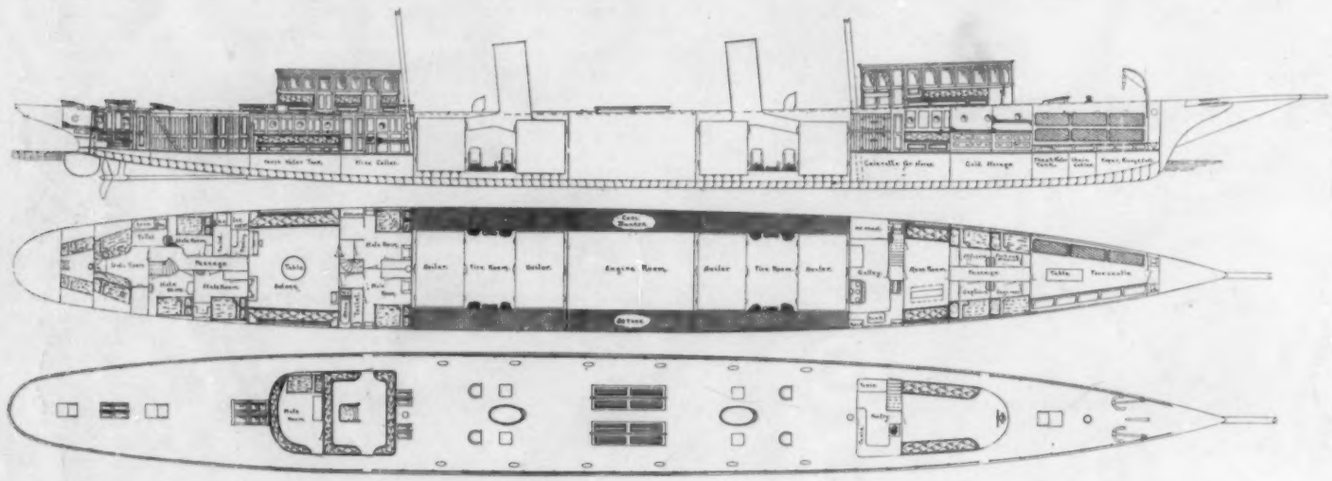
(2.) HOW PISTON RINGS ARE MADE.

Ring is turned eccentric, thinnest at split, to equalize pressure against cylinder walls. The diagonal cut and the lap joint are most commonly used. The tongue, when used, may be a separate piece.

expansion of the latter is kept down somewhat by its water jacket. A little above the center of the piston a hole passes clear through from side to side. A hardened steel pin completely fills this hole, and on this pin, between the ends of inwardly projecting bosses, works the bearing of the upper end of the connecting rod. The pin is prevented from working out of the hole and scraping or "scoring" the cylinder walls by set screws, split pins or similar devices set into the bosses.

The connecting rod, as its name implies, is the connecting link between the piston and the crankshaft, transmitting the energy of the explosion from the piston to the shaft and, on the other hand, transmitting the energy stored up in the fly-wheel from the crank to the piston on idle strokes. The connecting rod is, as a rule, made of what is called I-beam section or H-section, though other forms are sometimes seen, such as solid or hollow round rods, plain channels, U-sections and so on. The two bearings—one for the crank-pin and the other for the piston-pin or wrist-pin, as the steel pin passing through the piston is called, are separate parts fitted into the ends of the rod, so that when they wear excessively they can be removed and new ones substituted. The bearing on the piston-pin has only an oscillating motion through a small arc, and so the wear is not as rapid as in the bearing, in which the crank-pin is continually rotating. For this reason the piston-pin bearing is often merely a solid bushing of bronze forced tightly into a carefully bored hole in the upper end of the rod, or even a mere plain hole in the rod. Occasionally the "little end" is made adjustable by splitting at one side and putting in a "pinching screw" to take up the wear. The crank-pin end or "big end" is always made adjustable, however. The bearing may consist of two halves or "brasses" held together by a cap that bolts on the lower end of the connecting rod. Sometimes the brasses are made to fit the crank-pin exactly when there are several slips of thin brass or copper between their edges. When wear occurs, the bolts are loosened and one or more of these slips or "shims" are removed from each side until the bearing closes up sufficiently to take up the wear, when the bolts are again tightened up. The favorite metal for these bearings is bronze, plain or lined with babbitt. Babbitt is soft and easily crushed or squeezed out of shape or melted, but if supported by some stiffer metal will resist wear in a remarkable manner, and it has the advantage of being incapable of damaging the crank-shaft.

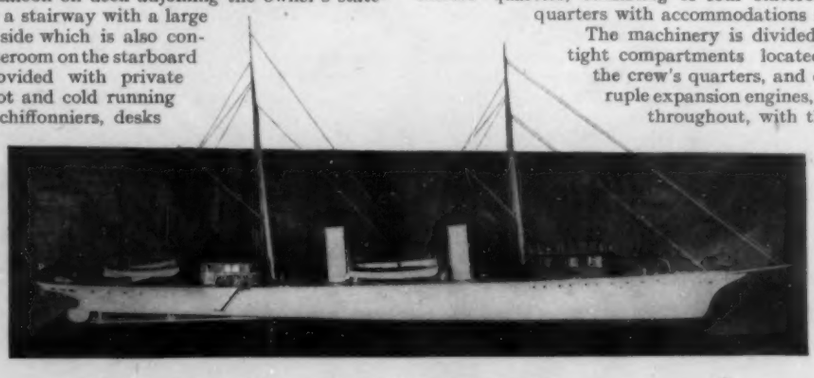
Just here it may be well to explain that a "bearing" is the hole in which a shaft or spindle turns, while a "journal" is that part of the shaft which turns in the bearing and is in contact with the brasses which constitute the bearing. The terms bearing and journal are often used interchangeably, but this is erroneous.



Plans of a Twin-Screw Steel Steam Yacht

THESE designs were prepared by Mr. Charles D. Mosher, who, it will be remembered designed the fast steam yachts Arrow, Ellide and many others. This yacht is 200 feet long over all, 180 feet on the water line, 20 feet beam, draws 8 feet of water and is designed to make a speed of 30 knots an hour, with bunker capacity sufficient to carry coal for crossing the Atlantic. Notwithstanding the extreme high speed and great coal capacity it will be seen that the accommodations are equal to those of most yachts of only half her speed and coal capacity. The accommodations consist of eight large staterooms, two of which are double. There is a private saloon on deck adjoining the owner's stateroom and it is connected by a stairway with a large stateroom below on the port side which is also connected with another large stateroom on the starboard side. These rooms are provided with private baths, a toilet room with hot and cold running water and large wardrobes, chiffonniers, desks and a large skylight. The main saloon is fifteen feet long, the full width of the boat, and has a large skylight overhead. There are upholstered seats on either side and octagon buffets in each corner. The entrance is made by a passageway leading from the main deck. At the sides of this passageway are three large staterooms, a bath room, toilet room and pantry. Next abaft is a ladies' cabin, ten and a half feet long and the full width of the boat. This has a large skylight, berths, sofas on either side, a chiffonnier, etc. Next abaft is another double stateroom having a separate companionway to the deck. The dining room is situated in the deck house forward, with a large pantry in the after part. This pantry is connected by dumb-waiter with the galley below which communicates with a cellarette underneath and which has ample capacity for stores for a long cruise. Forward of this is a large cold storage room. Forward of the galley again is the mess room, and next beyond is the officers' quarters, consisting of four staterooms. Next are the crew's quarters with accommodations for twelve men.

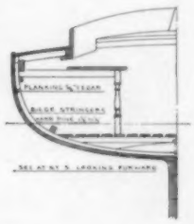
The machinery is divided into three separate watertight compartments located between the owner's and the crew's quarters, and consists of two sets of quadruple expansion engines, with independent auxiliaries throughout, with the usual pumps, condensers, fresh water evaporators, distillers, ice plants, electric light plants, etc. There are four water-tube boilers in separate compartments with coal bunkers on each side running the entire length of the machinery space. This boat combines the comfort of a private yacht with the speed and range of a liner.

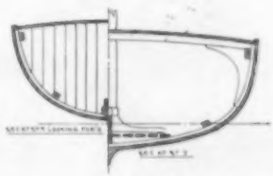


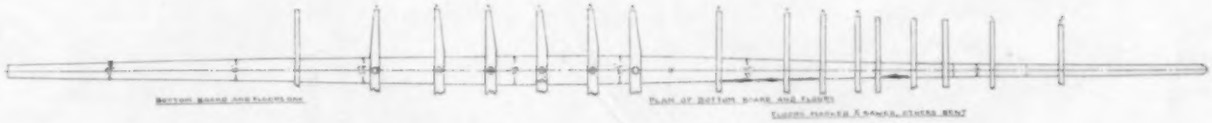
MODEL OF YACHT MADE FROM PLANS.

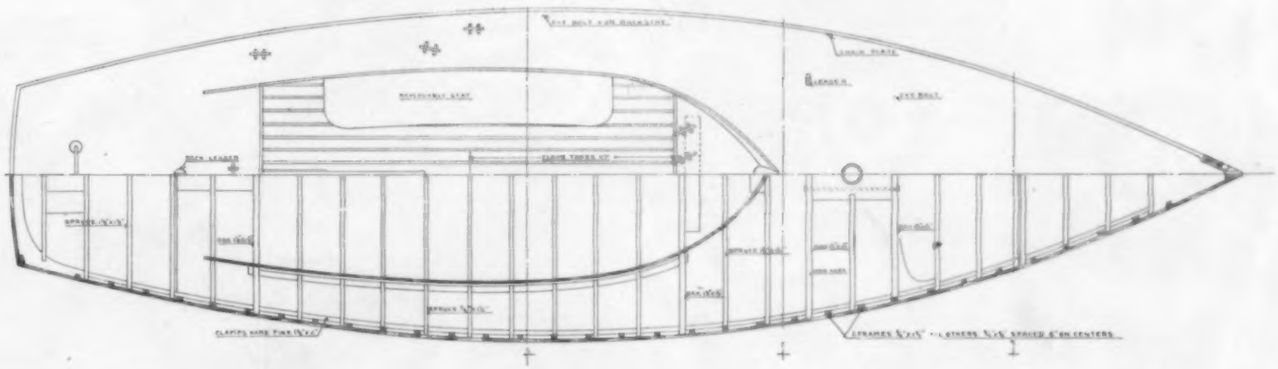
Hull One Design 15-Footers

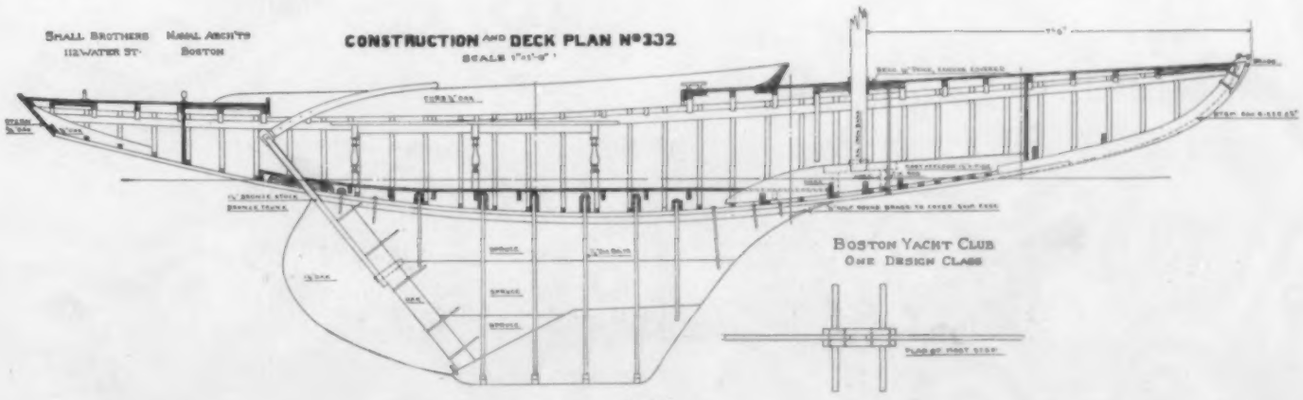
THERE is the keenest interest among the members of the Boston Yacht Club who own and race the little one design 15-footers, which were built early in the season at White's yard, Manchester. The boats are alike as peas and handling counts much in the racing, and each victory means more than luck in having the fastest craft. The owners drew lots for their boats. The little boats were designed by Small Brothers and are very prettily turned craft with plenty of speed, for their length and small sail plan. There are eighteen boats in the class and they are all sailed by clever amateurs, men who have raced in many of the smaller classes and who know all the fine points of the game. The majority of the racing is taking place at Hull and there are special cups for the class. The accompanying plan of the boats gives an excellent idea of what these little racing craft are like. They are 24 feet over all, 15 feet on the water line, 6 feet 6 inches beam and 4 feet draft. They are keel boats with 550 pounds of iron ballast and carry 285 feet of sail. The cost of the boats was only $325 a piece as hollow spars are barred. They were designed as knockabout craft for afternoon sailing and racing.

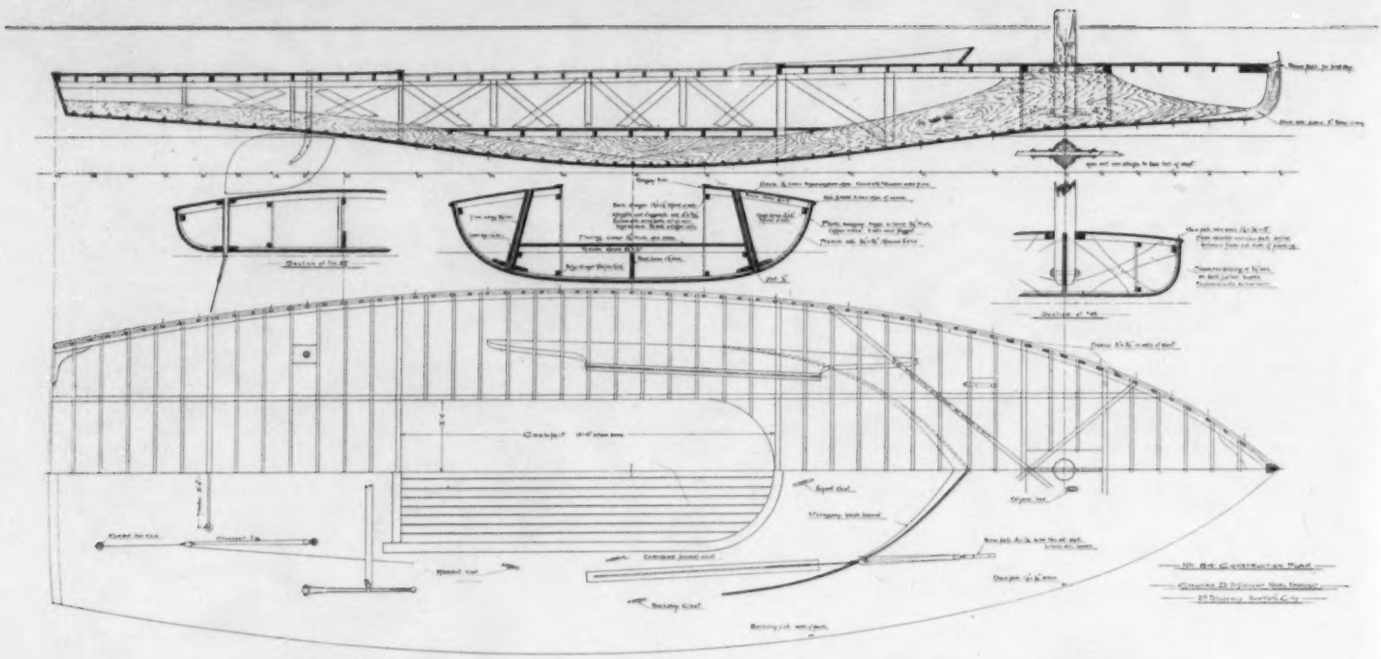






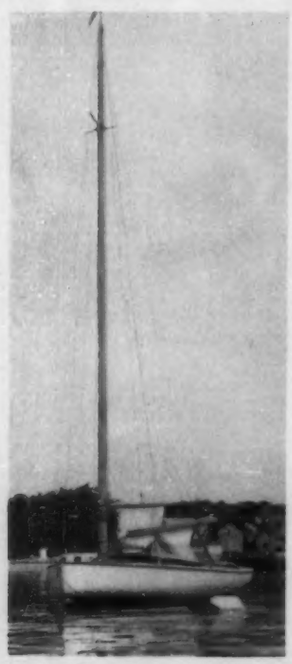






A Barnegat Racing Cat

THE design which is given herewith shows the extreme development of the racing cat under the old rule of water line plus square root of sail area divided by two which is still in force on Barnegat Bay, where the boat in question is to be raced. The design shows a boat of thirty-four feet in length on deck, but by the use of reversed curves the water line is shortened to eighteen feet when the boat is on an even keel. When under sail and heeled to the proper angle, the long, low overhangs become immersed and the actual sailing length increases to nearly the full length of the boat, and as the weather side lifts out the beam is reduced from nearly ten feet to but little over five. By this means the boat sails on a long narrow hull while the weather side serves as an outrigger for carrying the crew and shifting ballast (which is allowed in the Sewell Cup Race) well out to windward.



BOW VIEW.

To carry out still further the idea of a double hulled boat, two boards and two rudders are used, placed in either side so that they are in the axis of the immersed side and at such an angle that the leeward ones are perpendicular when the boat is heeled under sail. In sailing, the weather board is hauled up so that it houses in the trunk while the rudders are connected so that they act together. When heeled, the windward rudder is lifted entirely clear of the water and the boat is steered by the leeward blade which is immersed in solid water.

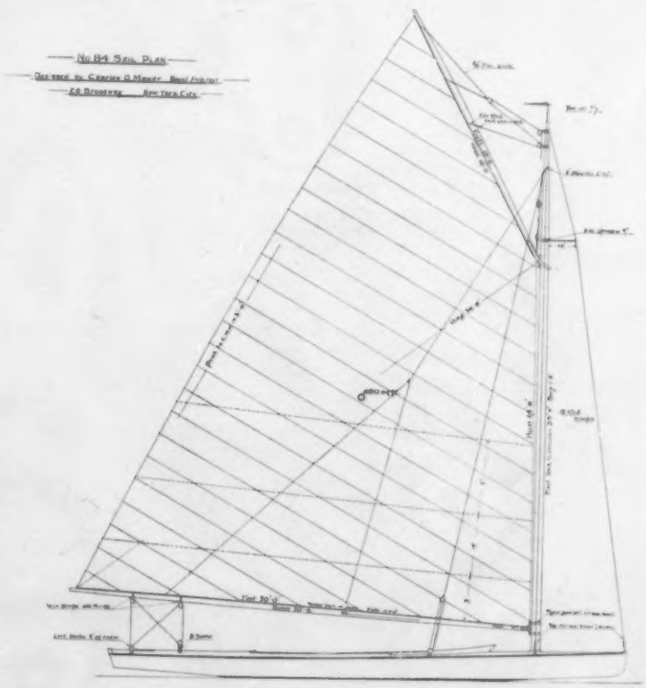
The rig is large, having 687 square feet in the mainsail, and the spars are all hollow with rigging of plow steel wire. The hull is very lightly constructed but braced with carefully designed trussing to give the strength necessary to stand the severe strains of hard racing. The planking is of cedar ¾-inch thick with oak frames 1-inch by 1-inch spaced 8 inches and fastened with brass screws. The deck is canvas-covered and all the joiner work is mahogany.

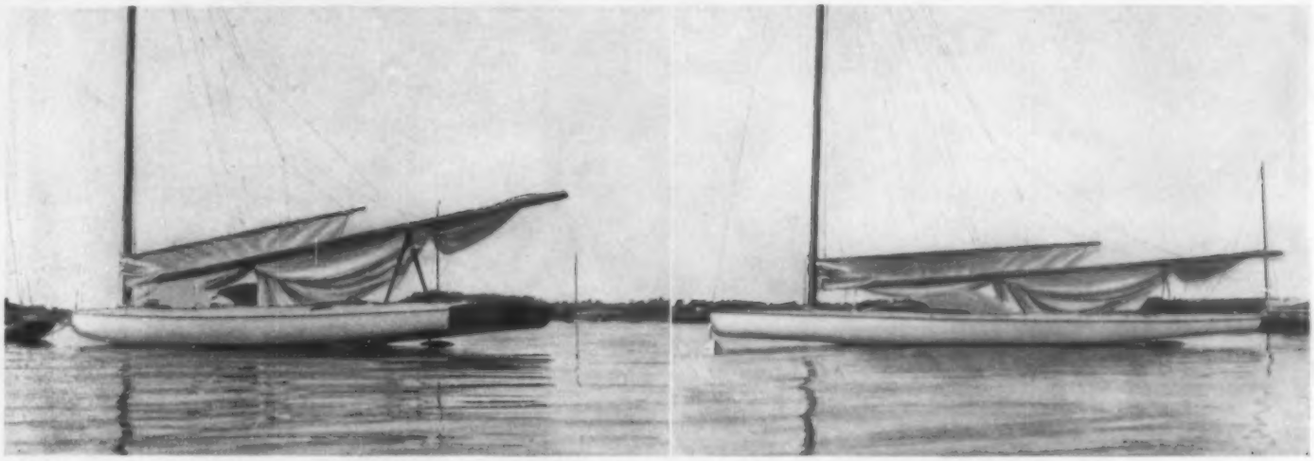
The boat was built at New Rochelle by the Huntington Mfg. Company, for Mayor John Weaver of Philadelphia, from designs and under the supervision of Charles D. Mower.

Her dimensions are: Length on deck, 34 feet 1 inch; length on water line, 18 feet; overhang forward, 8 feet; overhang aft, 8 feet 1 inch; beam extreme, 10 feet 1 inch; beam at water line, 8 feet 11 inches; freeboard bow, 2 feet; freeboard stern, 1 foot 6 inches; freeboard least, 1 foot 4 inches; draft of hull, 10 inches; draft boards down, 5 feet; sail area, 687 square feet.

After a few trying out spins on the Sound she was towed to Gravesend Bay, and from there sailed down the Jersey beach to her home waters.

The run from Sandy Hook to Barnegat Inlet, a distance of forty-eight miles was made in an even six hours. A part of the time she was





AT ANCHOR. SHOWING LONG OVERHANGS AND DOUBLE RUDDERS. SHE HAS AN OVER ALL LENGTH OF THIRTY-FOUR FEET, WHICH REDUCES TO EIGHTEEN FEET ON THE WATER LINE.

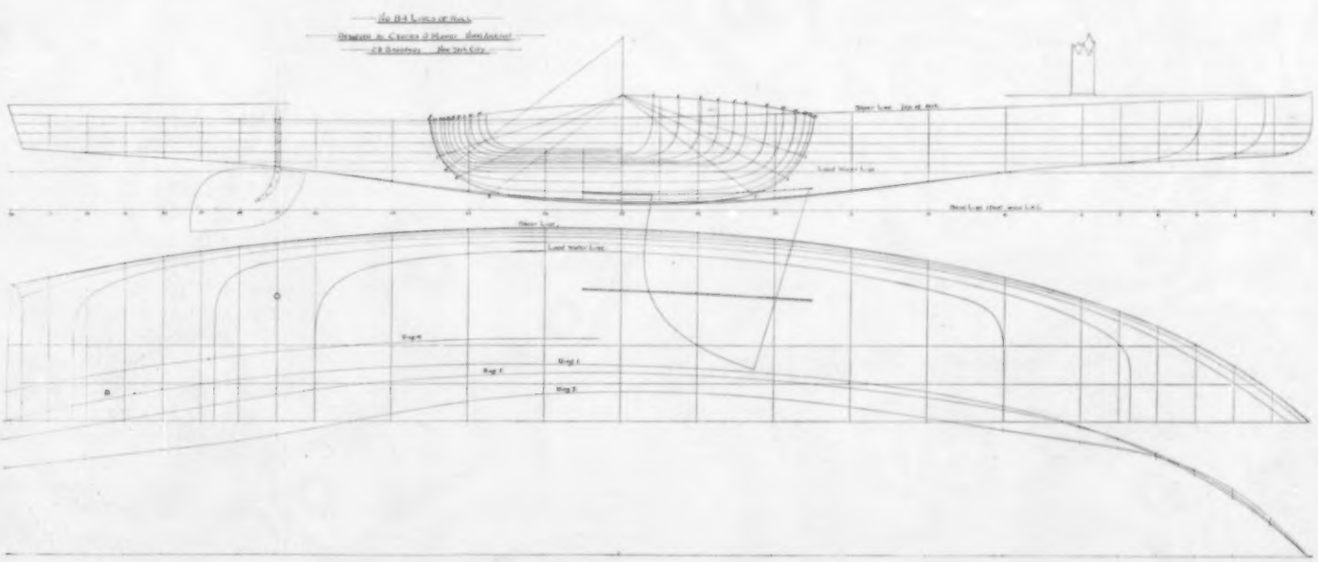
under three reefs and in the smooth water close under the beach with a strong west wind blowing, she ran the four-mile stretches between the life saving stations in from twenty to twenty-five minutes making a speed of nearly twelve miles an hour at times. The photographs of the boat at anchor show her long over-hangs and lofty rig and the snapshot taken on board during the run down the beach gives some idea of the speed at which she was going through the water.

The boat is designed as an improvement on Empress and Old Maid, two other boats of Mr. Mower's design, that have held the honors in Barnegat Bay for the past seasons.

Since her advent in Barnegat Bay yachting circle she has amply justified the hopes of her designer and owner. In all sorts of breezes she has proven faster than Old Guard which formerly carried off the honors.

Notwithstanding the special adaptability of the type of boat to shoal waters, such as obtain in Barnegat Bay and most of the arms of the sea along the coast from Boston to Florida, there seems to be little tendency to bring her into general use—and this, too, in face of a fact that the ordinary cat boat of 18 or 19 feet draws from 20 inches to 2 feet 8 inches.

REACHING IN A STRONG BREEZE GIVING AN IDEA OF HER SPEED.



LINES OF RACING CAT DESIGNED BY CHARLES D. MOWER

EDITORIAL

Published by the Yachting Publishing Co.; Oswald Garrison Villard, President; Robert M. McBride, Secretary and Treasurer.

The America's Cup Comment of the English press in regard to a challenge for the America's Cup, talk of which has been rife on both sides of the Atlantic in the past month or so, suggests a change of view point radical enough to warrant examination. In the brief span of years lying between the victory of Reliance over Shamrock III, and the season of 1907, reports—some of foreign, and more, perhaps of local origin—that a more or less mysterious Briton was preparing to dispute our further tenure of the most famous yachting trophy in the world, have been as invariable as the advent of summer. It always made good reading, and in an undefinable way in this country at least added a certain amount of zest to the season. The attitude of English newspapers and periodicals, on the other hand, was far from inspiring. The America's Cup! Who wanted it anyway? Surely the trouble of building and managing a challenger was not worth the candle. And thus it went. Pessimism marched hand in hand with ill-nature, and sarcasm lurked ever by. But now with the Universal rating at home and the Uniform Rule of measurement in this country, making as they do common cause for the wholesome boat, we note a change in the English tone. The prospects of a challenge under a rule that would eliminate a sloop of the Reliance type is viewed with equanimity, eagerness, one might say. The fact that English designers have had opportunity of trying widely varying models under the new scale, whereas, American yachtsmen have been too much concerned over one single type to attempt the gamut of possibilities, has been complacently referred to by more than one of our cousins across the ocean, and in short a cup race in 1908, under wholesome conditions appeals to British yachtsmen as a decidedly sporty proposition, as they would put it. The Fife boat White Heather which, while a bit "squeaky" on the wind has defeated in hollow fashion all the best cutters on the Solent, the Irish Sea and elsewhere has raised their hopes above par, and if Sir Thomas Lipton does not challenge, they say, there are several men, who have the means and the inclination, ready to step to the place which for some unknown reason seems to have been accorded to the genial baronet. As for the New York Yacht Club, silence continues to be the policy. And why not? there being no challenge, and hence little use in talking. "Challenge, and we will then see if we like your terms." It really sounds worse than it is; because the next challenge for a race under rules producing the sea boat as well as the racer will be accepted by the holders of the cup for reasons many, and important.

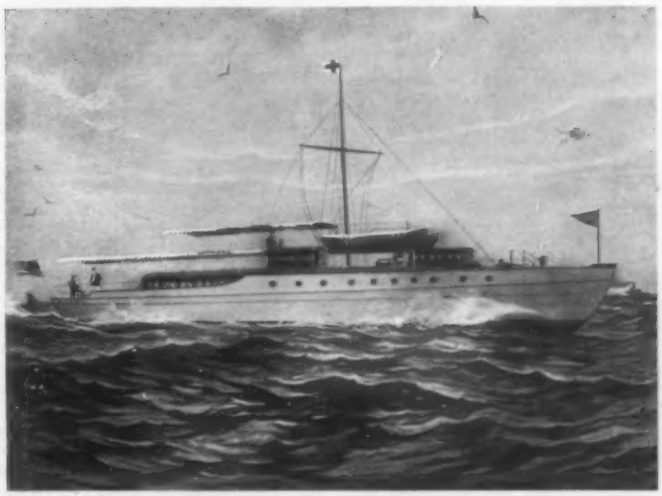
The Ocean Races for Motor Boats The response of a well-known English expert to a request from YACHTING for a brief opinion as to the efficacy of ocean motor boat racing, resulted in a surprising letter which we, herewith, print in part. "The man who says that the race to Bermuda did a great service to the commercial end by showing the possibilities of the internal combustion motor, misses the whole point of the development. If he insists that the fact that Ailsa Craig and Idaho covered this stretch of real ocean at a 10-knot gait, proves that motor boats like the two named are capable of ocean navigation under every possible condition of wind and weather, he is talking nonsense, because as Sir William White pointed out the other day, there is a limit to the service of vessels which no mechanical ingenuity can overcome. These motor boats, for instance, cannot be as weatherly as yachts of the same size. Even in moderately rough weather, their motors would not be capable of efficient use. The fact of the matter is that it defeats the commercial end to send sixty-foot motor boats to sea. Their proper place is in sheltered water, until the development of the internal combustion engine is sufficiently advanced to permit of its installation on a larger scale in vessels of a size suitable for all-round ocean weather. No end is served by the ocean racing of motor boats, and the sooner this is recognized, the quicker we shall get on with the explosion engine. I am strongly convinced that this racing of motor boats in the open sea is a mistake, and that some big accident will prove this to be the case. Anybody who saw the motor racing boats knocked about at Monaco this year will bear me out in this."

Motor Boat Racing Complaint has been heard of a lack of interest in not a few motor boat races throughout the country, evidence of which has been found in the apparent disinclination of owners to enter events. This, small doubt, speaks for the increased growth of the cruising spirit among those who operate power craft, indications of which were apparent last season. In the long run it is always the sane, conservative attitude that makes for good in any sport, and while a falling off in the races of gasolene craft may be deprecated and justly so, the increase in the building of motor boats, and the general growth in public regard for them may be taken to mean that the sport has settled upon a solid and lasting basis which was more than could be said two years ago.

Dixie's Victory All honor to Commodore E. J. Schroeder's motor boat Dixie which won the race for the International Marine Motor Cup on Southampton Water in England, beating her British competitor Daimler II by three-quarters of a mile over a thirty-five mile course. Dixie by clever handling gained four lengths at the start and the further she went the lower sank the hearts of the English spectators. She completed the dash in one hour, fifteen minutes and forty-four seconds, averaging 27.6 knots. It is true that only two British boats competed in the event, and that the two crack French boats Panhard-Tellier and La Rapiere failed to enter, but these facts need not detract one particle from Dixie's triumph. The British boats built on the lines of the best French models were regarded as fully the equals of the famous French Champion-of-the-Sea and hence well qualified to defeat the aspirations of the owner of Dixie. But they failed to do this, and so the cup comes here. Commodore Schroeder's initiative, enthusiasm and outlay of money incidental to this race are justified in results that afford a source of national satisfaction.

A Modern Motor Yacht

THE popularity of the modern motor yacht for extended cruising or for use as a fast ferry from home to office, is constantly on the increase and each year sees this type of vessel more and more used by those who formerly depended upon steam yachts for their outings. The marine gasolene motor as now made in large sizes is so much lighter for its power and occupies so much less space, that an owner is enabled to obtain the same amount of accommodations on a length of say 75 feet over all, as he would formerly have had in a steam yacht of 125 feet in length and at the same time the first cost of the yacht and its maintenance are much reduced.



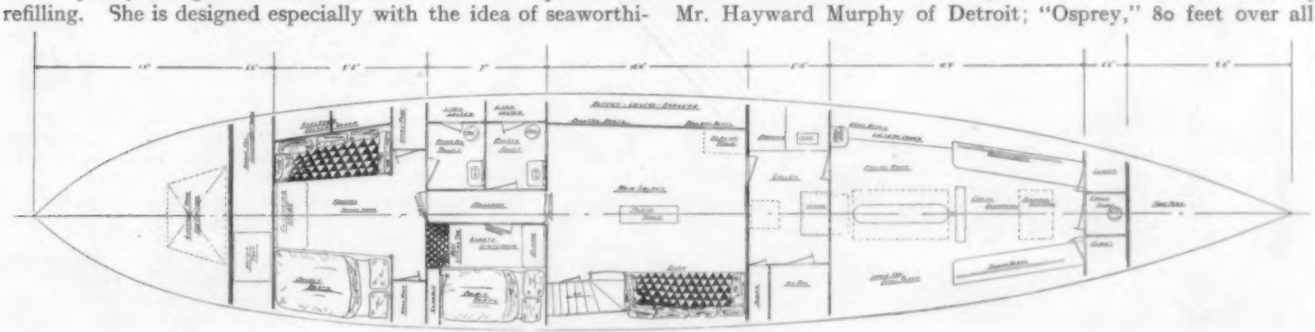
"LYDIA," JOHN N. ROPER, OWNER.

Among the notable boats of this type of the year is "Lydia," built by the Williams-Whittelsey Company of Long Island City, N. Y., from designs by H. N. Whittelsey for Mr. John L. Roper of Norfolk. "Lydia" is 75 feet over all, 14 feet breadth and is equipped with a 50 horsepower gasolene motor which gives her a sustained speed of eleven miles per hour, and is equipped with tank capacity enough to allow her to make extended trips without refilling. She is designed especially with the idea of seaworthiness and comfort, points which this Company have always emphasized and her construction is in keeping with these desired qualities.

As will be noted from the illustration above, the motor is placed well forward and is separated from the owner's quarters by the galley, which does away with the annoyance from the noise which is common to all machinery. The crew's quarters are just forward of the motor room and furnish accommodations for three men.

The main saloon is placed amidships and is entered through a hatch on the starboard side. This is a large roomy compartment with two Pullman berths on one side and divan, which can be used as a berth, on the opposite side.

From the main saloon a passage leads aft, on the starboard side of which is the guest's stateroom and opposite, the owner's and guest's toilets, while the owner's stateroom is located at the after end of the deck house and all these quarters are well ventilated by large windows. It will be noted by reference to the illustration of "Lydia" that the sides are carried up to form a raised deck for the forward half of the length. This tends to increase the strength and seaworthiness of the hull, while the continuation of this deck as a house top aft, gives plenty of light and ventilation to the owner's quarters. The quarter-deck is large and roomy and the raised deck can also be used for day accommodations, if required. That this particular type is very popular is shown by the orders which the Company has received, during the past season, for boats which are similar in design and arrangements. These boats are "Dolph," 57 feet over all, owned by Mr. W. G. Stuber of Rochester; "Althea," 60 feet over all, owned by Mr. Hayward Murphy of Detroit; "Osprey," 80 feet over all, owned by Mr. C. R. Runyan of New York; "Lillian II," 75 feet over all, owned by Mr. George H. Reeves of Greenport, L. I. and "La Vedette," 50 feet over all, owned by Mr. A. P. Plumb of New York. All these boats have been very successful and are giving the best satisfaction to their owners. The Williams-Whittelsey Company have also developed another type of cruiser designed for higher speed, but which at the same time gives ample accommodations, in fact, they specialize on motor yachts from 50 to 125 feet in length and to supply designs and estimates upon request, stating the size and type of boat required.



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MOTOR BOAT RACING AT THOUSAND ISLANDS

By ALEXANDER T. LINDSAY

THE Frontenac Yacht Club motor boat races on July 26 and 27, were witnessed by a fashionable assemblage from the porches and lawns of the cottages and club house. As usual at this time of the year the weather was beautiful with a strong wind making a heavy sea of whitecaps for the boats to plough through. Racing in the Thousand Island region of the St. Lawrence River is growing more popular every year and is a society event as much so as the horse show is in the cities. During the recent races the Yacht Club was the scene of much social gaiety and, while the boats were racing over the course beyond view, some of the members enjoyed a dance and lawn musicale while others with marine glasses watched the races from start to finish.

Frontenac has the largest dock in this section, but room was at a premium at this regatta and it was almost impossible to crowd another boat in anywhere. The course was fairly well lined with yachts and hundreds came to the events in the numerous motor boats for which this region is noted. Nature has made the use of boats a necessity here as they are the only means of transportation among the sixteen hundred odd islands. The enthusiasm displayed by the public present speaks much for the future of motor boats on the St. Lawrence River.

The first day's racing was one of the worst ever experienced, the gale causing such a disturbance on the water that most of the crews wore life preservers. Damphino owned by Grant Peacock of Pittsburg won the cup. This boat lost her hood when turning the buoy at Fine View. Pirate Jr. owned by Rolland Peacock twisted off her flywheel on the start of the second lap which fortunately did not injure the boat. The yacht Jean owned by T. A. Gillespie of Pittsburg towed Pirate Jr. to safety. The What Next owned by Harry Crouse of Utica came in before completing the first lap as the heavy seas were too much for her. The spectators were then treated to something novel for Miss Jean Gillespie of Pittsburg and James Parke Gillespie took their fast boat Vingt-trois around the course with Miss Gillispie steering her brother's flyer. Simplex XI could not start owing to the failure to have her measured in time.

The fourteen-mile handicap race under the American Power Boat Association rules for boats not less than thirty feet water line held on the following day was won by Pirate Jr., a new boat this season. The elapsed time was forty-three minutes thirty-nine seconds, while the other new racer Damphino was second, her elapsed time being forty-seven minutes and thirteen seconds.

The twenty-one mile free for all race was won by Simplex XI owned by H. Broesel and N. C. Whitehead of New York, her elapsed time being forty-seven minutes and forty-two seconds and when the elements were considered, this showing is remarkably good. The fast Pirate, winner of nearly every race last year and of the Gananoque, Kingston and Canada Cups this year, went down to her first defeat in a free-for-all race on this occasion. Pirate crossed the starting line first but was soon passed and the old St. Lawrence champion, victor in so many races, lowered her flag to the new boat.

Officials at this meet were C. G. Trussell, Augusta, Ga.; R. J. Reddy, New York; Fred Frazer, Syracuse; Fred B. Williams, New York and Walter J. Green, Utica.

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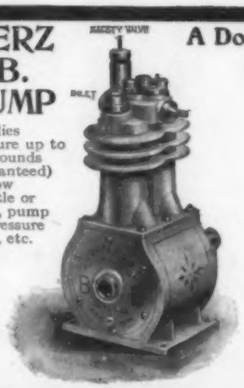

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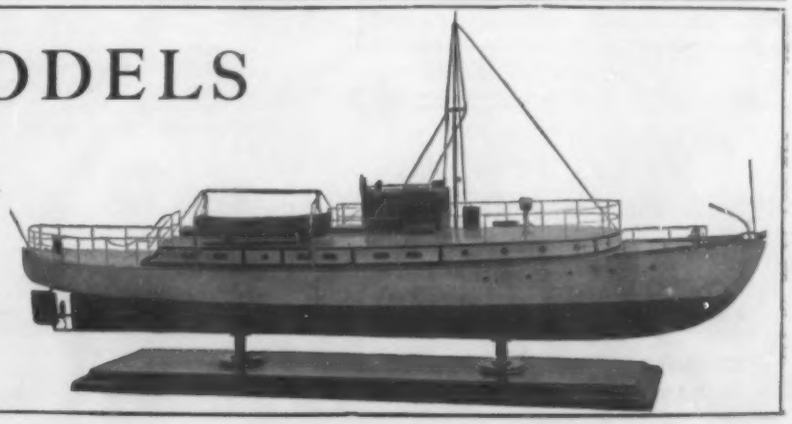

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BRITISH YACHTING.

(Continued from page 168)

when Heatherbell joined the class. In that match the wind was true and of fair weight. Eileen beat Heatherbell, and both boats left Kelpie a long way astern. On the whole, the three cutters are evenly matched and there is every indication that with them a new era of Yacht Racing Association class racing on the Clyde has been successfully inaugurated.

By G. W. FERGUSON, Glasgow.

One of your yachting experts expressed a hope when the sixty-five rater Isolde and some others of this class went to America, that we would change our rating rule often, because the alteration which practically disqualified these boats had turned out to be rather a good thing for your people. We have not many fast boats to discard now, in favor of boats built to the International Rule but if we had, it is a moral certainty that this expert would be able to say again what he had said on the earlier occasion. I have seen all the new boats racing on the Thames since the season opened, and the impression they have made on me is that they do not sail so fast to windward as boats of earlier types did. Speaking generally, their beam is very far aft, and they do not look like boats that would sail close. The best of them, which is Mr. Fife's White Heather II, undoubtedly can be made to look very high, but just as clearly, she does so at the expense of speed through the water.

Bevis has been quick to discover this, for he sailed her fairly full. To tell the truth, however, all the boats of this year, both old and new, are keeping a good full in their matches, which is, perhaps, the only lesson our professionals ever really learned in America. Before they went to New York, all our challenger skippers were highly expert windward artists. On their return, their enthusiasm for close work was not quite so pronounced; on the contrary, they were convinced that speed through the water was not to be despised, and they showed it here at its best, subsequently, in many a well-sailed match.

The weakness of the International boats to windward, is much more apparent in the fifteen-metre class. Here Mr. Mynle's last year representative Britomart is easily better by the wind than both of the new boats. In the race from the Nore to Dover, Shimna, with Mr. Fife on board at Ned Embling's elbow, pretty nearly lost Britomart and the others, but the explanation of this apparently hollow victory was that it was running and reaching nearly all the way. The only close work came near the end of the day, when the Fife boat's lead was too great to be affected. If the start had been to windward, I am sure that the positions at the finish would have been reversed, because quite clearly on ideal days where there was a turn, Britomart was the better boat. From the very beginning of the season, Mr. Mynles's new fifteen-metre boat Mo'ona was under a cloud. There is no reason why she should not be a fast boat, but to date she has done nothing in the direction of fulfilling the promise of her looks.

Taking the five boats of the class together, I should say, that in any true wind not only Britomart, but Mr. Herreshoff's Sonya, and possibly the older Fife boat Maymon as well are faster turning into it. A distinguished British yachtsman said to me on the club steamer, that what we had seen was all very well for smooth water. "Wait," he went on, "until there is something of a sea. The boats built to the new rule will demonstrate their superiority then." So far we have not yet seen the racing fleet perform in broken water, but on one of the days I saw something which quite convinced me that

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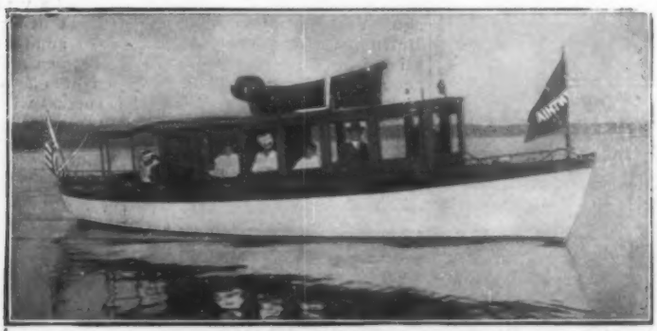

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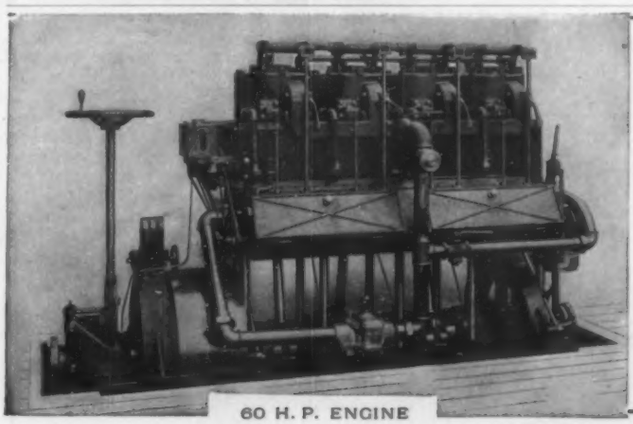

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in the mind of the yachtsman referred to, it was a case of the wish being father to the thought. The boats were pegging to windward in a weather-going tide, where the conditions are for racing yachts not greatly dissimilar to what the summer sailor calls a seaway. Britomart was beating well ahead of Shimna, and Sonya was plugging away in Shimna's wake. The Herreshoff boat, sailed perfectly by Mr. Keele, I think, fairly and squarely headed Shimna and finished close up to the winner. The conclusion is reasonable, therefore, that when the boats do meet in a batter of wind and water, Shimna and Mo'ona will lag astern of, at any rate, Britomart and Sonya.

The boats in this class are also, by the way, sailed much fuller than any similar fleet of twenties were. Possibly Mr. Fife set the example himself in Shimna. Whatever the cause may be, however, even Britomart and Sonya are simply not trying to hold the high wind they did a year ago. The most probable explanation is that Mr. Burton, who is one of our most expert amateur sailors, foresaw what was about to happen and acted accordingly, by beginning right off to violate the pinching tradition. His success with Britomart is, I may say, extremely grateful to the British yachting public, who recognize in him not only an enthusiastic racing owner, but the one man to whom the fifteen-metre class is indebted for its continued existence. But for him, the old fifty-two rater class would have been dead long ago.

I assume, obviously not without reason, that this decreased speed of the new International boats to windward is a part of the price we have to pay for the much-talked-about healthy type. A man cannot expect to have it both ways. If he has the speed, he cannot have the comfort; and if he has the comfort, he cannot have the speed. The most regrettable tendency of the rule is, in my estimation, its cheapening effect on the sport. An advantage of the new rule is said to be that it widens the market for second-hand boats, and enables a man to get rid of his out-built racer at a minimum of loss. To be quite frank, I do not call that an advantage at all. It is a disadvantage, because it misleads men to believe that yacht racing is a pastime, the cost of which is easily counted. The same men who lavish thousands of pounds per annum on race horses, trainers and jockeys, and never look for any return beyond the sport of the thing, are coming into yachting, and running boats on the same business principles that make or mar the dry goods business.

The Rule itself, however, will be self-destructive if the boats built to it are really as slow comparatively, as they appear to be.

By the way, in the course of a talk the other day with several Englishmen, who raced on Shamrock III in the Cup races, I was surprised to find an almost general belief that Reliance is going down the way to the marine knacker's yard, practically an untried boat. I was also told that there was really no saying how fast a yacht she was. She was more like a tea-tray than anything else, they said, but the impression her movements gave was that she could sail faster than any yacht ever did. As a trial horse for her, the opinion was, Shamrock III was as little use as a Clydesdale would be to a Derby candidate. Further to elucidate the matter, I suggested that a tea-tray was not the most desirable thing with which to navigate the Atlantic. To this observation, the rejoinder was, that Reliance would have made much better weather on the Atlantic, than any of the Shamrocks had done. From the men who expressed them, these were, I may say, strange views to hear, and possibly Americans will be as surprised to hear them as I was.

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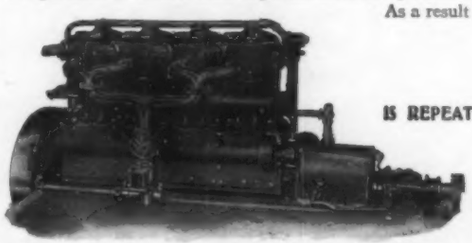

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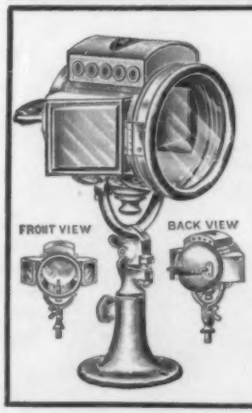

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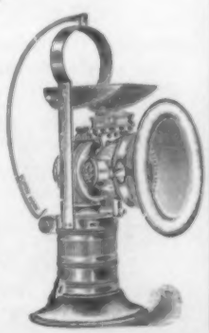

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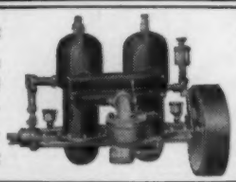

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MACKINAC RACES

(Continued from page 142.)

had uncovered a fresh northwesterly breeze which would enable us to carry all our light canvas and set our course for Skilligallee Light our next point in the long race.

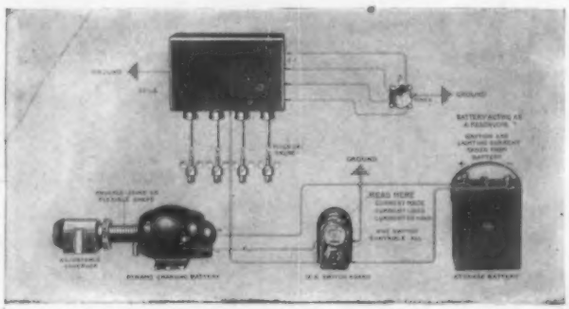
When we called the starboard watch on deck we had every rag on her that would hold wind and she was bowling along at about seven miles an hour. We searched the horizon far and near for a sight of competitors and could find only a little sail under the islands which we rightly took to be the Naiad.

The run down to Skilligallee was uneventful, the wind holding true all the way and we had an ideal run. Just before we reached Skilligallee we passed the big steamer Manitou which runs from Chicago to the island and down the east shore resorts besides an innumerable string of steamers, barges and freighters of all descriptions. We gave Skilligallee a wide berth in memory of the trick the treacherous reef had played our good friend Vanenna the season before and then squared away for the run to Waugeschance light which marked the final lap to the island. We were able to carry our spinnaker all the way owing to a slight shift of wind and rounded the light in great form taking in our spinnaker, jibbing our balloon jib and the rest of the canvas in most approved fashion. The lightkeeper informed us that there were three boats ahead of us and our hopes rose to dizzy heights. We discovered afterward that he meant three schooners but at the time we did not quite realize this and went bowling to the finish line confident of crossing it before dark and picturing the scenes of excitement when the little Nomad finished fourth in that great fleet of yachts, the best on inland waters.

With the island in sight and the lights of the Grand Hotel shining us a friendly welcome from its perch high on the side of the hill the wind died away leaving us becalmed near the gas buoy marking the Graham shoal.

It seemed very near and yet the four miles that stretched between us and the finishing line took us until after ten o'clock. Then we hurried to set the spinnaker for the final run down to the Straits. A glorious moon slipped up from behind Bois Blanc Island which the natives have transformed into Americanized Bi-blow Island.

With the freshening breeze we slipped down to the Round Island light which marks the straits between Mackinac and Round Islands at a nice clip. When half way we burned the Chicago Yacht Club's Coston signal light according to our sailing instructions which required us to so notify the judges at the finishing line that we were near at hand. A few seconds later from the spit on Mackinac we saw the answering light flare up and to make doubly sure we burned another light and kept the canvas drawing for every ounce it was worth. At last the light gas buoy that marks the entrance to the anchorage came in sight and we headed direct for it. We were in sight of it when we were hailed from shore and as we thought we had crossed the finishing line and had not yet received a signal we inquired anxiously for the judges. They megaphoned us that we were all right and that our time had been taken as we went past Round Island light which marked one end of the finishing line. Our hopes faded very suddenly. But in the excitement of the moment even the disappointment was lost in the pleasure of arrival. The three schooners had beaten us to the mark by so many hours that we did not even try to figure our time allowance, but then we were not the last boat in. Two yawls had yet to finish, Naiad and Tannis, and the sloop Beatrice which had been reported from



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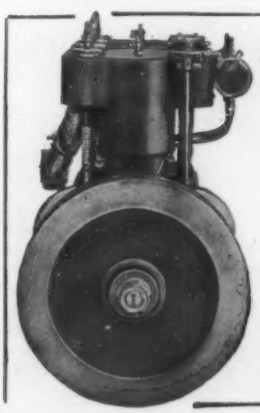

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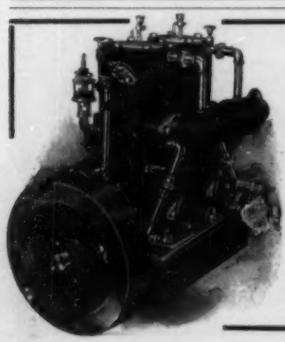

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(Rector of Trinity Church, Riverdale.)

Ludington where she had gone in a crippled condition after the stressful Sunday night squalls. She had carried away her topmast and her headsails had been torn to shreds by a waterspout.

When we got the news of the race straightened out we discovered that Vencedor had made another phenomenal race and that Hawthorne had pressed her close and was a good second winning the schooner class race and that Juanita had carried off the yawl prize. The remarkable race of Illinois was everywhere praised, the splendid little sloop having stood to her work like a regular cruiser and demonstrated that she is one of the best little seaboats as well as the sweetest racing craft on the lake.

The fourth annual race to Mackinac proved that it is a race to test the mettle of men and the quality of boats. It is a race of great opportunities and a race of immense possibilities but it is not always the best test of respective merits, for luck plays a tremendous part in the result. To analyze it one finds that it was won the first year by Vencedor a sloop with a reaching wind all the way, most of the time with spinnakers and balloon canvas set; the second year it went to Mistral, Dwight Lawrence's beautiful schooner, after a bruising race beating dead to windward against a fierce northeaster for over three days. The third race was the memorable race when eight boats finished inside of an hour's time. This time a sloop had the race in hand when it went on the shoals (this was Vanenna). The race was won by George Steere's splendid yawl Vanadis ex-Rosamund, which managed to evade the calm under the lea of the Manitous that locked all the rest of the fleet in its embrace and made possible the remarkable finish as the seven other boats were becalmed together and got out just in time to chase in the winner. This year with favoring winds a sloop, Vencedor again, carried off the great trophy running before a favorable wind all the time, even when the edge of the storm hit her, sending her on her way, while she missed the severe weather.

Here is the story of the race as told in figures:

MIXED CLASSES SAILING ON TIME ALLOWANCE FOR MACKINAC CUP OF CHICAGO YACHT CLUB.

	Start. h. m. s.	Finish. h. m. s.	Elapsed. h. m. s.	Allowance. h. m. s.	Corrected. h. m. s.	Winner.
Mistral*	4 00 00	07 07 55	51 07 55	0 43 45	50 24 07	5
Hawthorne*	4 00 00	1 37 43	45 37 43	0 31 46	45 05 57	2
Alice*	4 00 00	10 31 20	54 31 20	1 15 25	53 15 55	8
Nomad*	4 00 00	10 16 30	78 16 30	4 35 08	73 41 22	11
Ranger†	4 00 00	11 45 10	67 45 10	0 00 00	00 00 00	0
Juanita*	4 00 00	09 11 35	53 11 35	0 04 15	53 07 20	7
Naiad*	4 00 00	03 09 17	83 09 17	7 59 00	75 10 11	12
Arcadia*	4 00 00	11 10 15	67 10 15	5 24 31	61 55 44	9
Tannis*	4 00 00	07 10 00	87 10 00	8 32 58	78 37 02	13
Vencedor‡	4 00 00	11 29 00	43 29 00	1 02 35	42 26 25	1
Neva*	4 00 00	6 53 10	50 53 10	scratch	50 53 10	6
Illinois*	4 00 00	8 59 31	52 59 31	6 21 01	46 38 30	3
Vanenna*	4 00 00	5 20 40	49 20 40	0 31 45	48 48 55	4

CLASS-YAWL

	Start. h. m. s.	Finish. h. m. s.	Elapsed h. m. s.	Allowance. h. m. s.	Corrected. h. m. s.
Ranger†	4 00 00	11 45 10	67 45 10	0 00 00	00 00 00
Juanita*	4 00 00	9 11 35	53 11 35	Scratch	53 11 35
Naiad*	4 00 00	3 09 17	83 09 17	7 54 51	75 14 26
Arcadia*	4 00 00	11 10 15	67 10 15	5 20 16	00 00 00
Tannis*	4 00 00	7 10 00	87 10 00	8 28 43	78 41 17

CLASS-SCHOONERS.

Mistral*	4 00 00	7 07 55	51 07 55	0 12 02	50 55 53
Hawthorne*	4 00 00	1 37 43	45 37 43	Scratch	45 37 43
Alice*	4 00 00	10 31 20	54 31 20	0 43 39	53 47 41
Nomad*	4 00 00	10 16 30	78 16 30	4 03 22	74 13 08

CLASS-SLOOPS.

Neva*	4 00 00	6 53 10	50 53 10	Scratch	50 53 10
Vanenna*	4 00 00	5 20 40	49 20 40	0 31 45	48 48 55
Vencedor*	4 00 00	11 29 00	43 29 00	1 02 35	42 26 25
Illinois*	4 00 00	8 59 31	52 59 31	6 21 05	46 38 30
Beatrice§	4 00 00	Did not finish.			

* Chicago Yacht Club. † Milwaukee Yacht Club. ‡ Chicago Athletic Club

The big excitement of the aftermath of the race was the stranding on Mission reef of Commodore Fred A. Price's steam yacht Manzanita. The beautiful steel boat was hung up on this dangerous point for over thirty hours before she was successfully floated off practically without injury although she had to be taken to Sault Ste. Marie for dry docking in order to ascertain the extent of her injuries.

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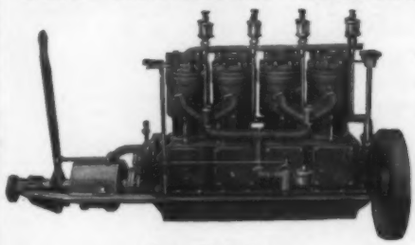

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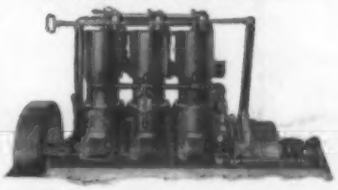

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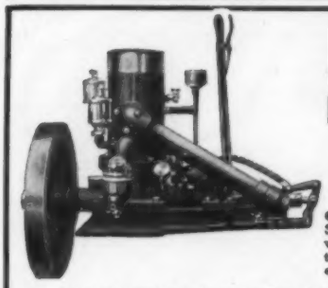

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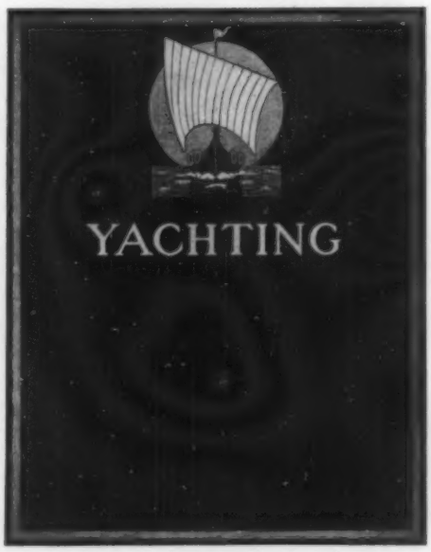

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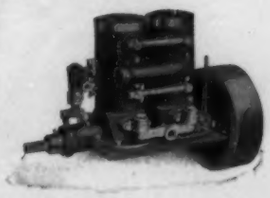

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RÉSUMÉ OF JULY RACES

(Continued from page 159)

INDIAN HARBOR YACHT CLUB ANNUAL REGATTA.

SCHOONERS, CLASS B—COURSE, 20 MILES—START, 12.10.

	Finish. h. m. s.	Elapsed Time. h. m. s.
Queen	4 54 21	4 44 21
Invader	Did not finish.	

SLOOPS, CLASS J—COURSE, 20 MILES—START, 12.15.

Effort	5 59 33	5 44 35
Neola	6 08 29	5 53 24

SLOOPS, CLASS K—COURSE, 20 MILES—START, 12.17

Aurora	5 17 50	5 00 50
Istalena	4 59 26	4 42 26

SLOOPS, CLASSES N AND P—COURSE, 15 MILES—START, 12.20

Joker	6 03 11	5 43 11
Red Wing	5 57 49	5 37 49
Regina	6 08 59	5 48 39

N. Y. Y. C. 30-FOOT CLASS—COURSE, 15 MILES—START, 12.25

Pintail	6 13 35	5 48 19
Nepsi	5 51 38	5 26 38
Atair	6 22 55	5 57 55
Alera	5 54 42	5 29 42
Minx	5 57 18	5 32 18
Phryne	6 02 20	5 37 20
Adelaide	6 01 03	5 36 03
Banzai	5 55 45	5 30 45

SLOOPS, CLASS G—COURSE, 11 MILES—START, 12.30

Dorothy	5 06 06	4 36 06
Capsicum	5 08 09	4 30 09
Ogeemah	Did not finish.	

RACEABOUT CLASS—COURSE, 11 MILES—START, 12.35.

Rascal III	5 56 49	5 21 49
Chinook	6 01 34	5 26 34
Pretty Quick	5 56 12	5 21 12
Tomboy	6 02 41	5 27 41

HANDICAP CLASS—SECOND DIVISION—COURSE, 11 MILES START, 12.35.

Busy Bee	5 56 51	5 21 51
Howdy	5 58 18	5 23 18

LARCHMONT 21-FOOT CLASS—COURSE, 11 MILES—START, 12.40.

Houri	6 02 11	5 22 11
Follette	6 05 45	5 25 45
Dorothy	Did not finish.	
Vaquero	5 58 43	5 18 43

HANDICAP CLASS—THIRD DIVISION—COURSE, 11 MILES START, 12.40.

Arion	6 09 17	5 29 17
Firefly	6 01 22	5 21 22
Arden	Did not finish.	
Monsoon	6 03 28	5 23 28
Huntress	6 09 00	5 29 00
Montauk	6 03 07	5 23 07

SLOOPS, CLASS R—COURSE, 8 MILES—START, 12.45.

Hamburg	4 27 04	3 42 04
Virginia	5 05 25	4 20 25

SLOOPS, CLASS S—COURSE, 8 MILES—START, 12.45.

Hun	5 22 47	4 37 47

NEW ROCHELLE ONE DESIGN CLASS—COURSE, 8 MILES START, 12.45.

Nereid	5 36 19	4 51 19
Echo	6 25 44	5 40 44

INDIAN HARBOR Y. C. CATBOATS—COURSE, 8 MILES—START, 12.50.

Wacontah	6 04 00	5 14 00
Nancy	5 16 57	4 26 57
Ace	6 17 10	5 27 10
Joe	5 17 51	4 27 51

RIVERSIDE Y. C. CATBOATS—COURSE, 8 MILES—START, 12.50

Dooley	Did not start.	
Doahme	6 25 03	5 35 03
Getty	6 12 12	5 22 12

AMERICAN Y. C. DORIES—COURSE, 8 MILES—START, 12.50.

Ruth	4 34 28	3 44 28
Faraway	3 50 00	3 00 00
Tantog	4 43 45	3 53 45

BUG CLASS—COURSE, 8 MILES—START, 12.45.

Scarab	Did not finish.

The winners were—Queen, Effort, Istalena, Red Wing, Nepsi, Capsicum, Pretty Quick, Busy Bee, Vaquero, Montauk, Hamburg, Hun, Nereid, Nancy, Getty and Faraway.

CANADA YACHTING.

ROYAL NOVA SCOTIA YACHT SQUADRON, NINE MILE CRUISING RACE.

	Time. h. m. s.
Ikey Boy	3 45 00
Nym	3 49 22
Princess	3 50 30

NORTHWEST INTERNATIONAL YACHT RACING ASSOCIATION, ANNUAL REGATTA.

42-foot Class—Lavita, Seattle Yacht Club, first.

36-foot Class—Britannia, Royal Vancouver Yacht Club, first; Gwendolyn, Bellingham Yacht Club, second; Widewake, Royal Vancouver Yacht Club, third.

29-foot Class—Winona, Seattle Yacht Club, first; Two Step, Bellingham Yacht Club, second.

26-foot Class—Dione, Royal Vancouver Yacht Club, first; Whitecap, Seattle Yacht Club, second.

30-foot Class, centerboard—Silver Spray, Royal Vancouver Yacht Club, first.

21-foot Class, centerboard—Empress II, Seattle Yacht Club, first; Empress I, Seattle Yacht Club, second.

ROYAL CANADIAN YACHT CLUB CRUISE TO PORT DALHOUSIE.

Strathcona, was the winner in the first division and Zoraya in the second division.

An Important Issue of Yachting

THE OCTOBER NUMBER

IN MANY respects no issue of the year is so important as our October number. It is virtually a review of the summer's yachting and all the big races, national and international, that take place in August are discussed and pictured for the first time.

The October number of YACHTING will be thorough in its review of one of the most active and significant seasons of the sport in this country and will contain in addition to articles of racing interest those of widely divergent subjects on both sail and power craft. A few of the features are:

THE NEW YORK YACHT CLUB CRUISE—By LAWRENCE PERRY. A picturesque study of the most important yachting event in this country concluding with the famous race for the Astor trophies and the King's Cup.

THE RACES FOR THE CANADA'S CUP—By C. H. J. SNIDER. How the Canadians failed and why. The significance of the international event.

FOR THE MOTOR BOAT CHAMPIONSHIP OF THE GREAT LAKES—By G. B. HILLER. This is a description of the famous race last month between Arrow and Secret which excited deep interest throughout the country.

THE SONDERKLASSE RACES—By OWEN ROBERTS. An event not altogether pleasing to our nautical pride. The reason advanced for defeat may prove soothing.

THE SYSTEM OF HANDICAP YACHT RACING—By CHARLES P. TOWER. An illuminating article upon a subject which many yachtsmen have regarded as too esoteric for practical application. In printing this we answer the questions of nearly a hundred correspondents.

MOTOR BOATS AND DESIGN—By HENRY IRVING DODGE. Does skillful designing mean as much in a motor boat as in a windjammer or does the engine alone tell the story of success? What designers think. A striking, momentous article.

THE SCANTLING RULE—By CLINTON H. CRANE. A forceful treatment of an absorbing subject by a technical master.

THE RACE OF THE ELMINA—By ALLEN PRICE. A story of a thrilling meeting of three great schooners under conditions that put a man's heart to the test. In it is the swing, the implacable drive of big boats in a big wind.

THE TURBINE VS. THE RECIPROCATING ENGINE—By GEORGE A. WHITE. There is a great diversity of opinion in shipping circles as to the relative merits of the two methods of propulsive motor. This article in a simple way explains the turbine system—its advantages and its future.

THE FISHERMEN'S RACE—By JAMES F. MCNALLY. Here is a story of a race of men who in the pursuit of a livelihood face the salt gale, taking what comes, living and dying on lonely seas. They raced, just as they live, with indomitable purpose.

THE LIPTON CUP RACES OF THE GREAT LAKES—By J. M. HANDLEY. A graphic account of the races for the Lipton Trophy for 21-foot sloops, which arouse each year much interest in the West.

THE PRACTICAL STORY OF THE GASOLENE MOTOR—By HOWARD GREENE. A continuation of the important series of articles on the gasolene engine written so that every man, however lacking in engineering knowledge, may understand the makeup and principle of the gasolene engine and thus be able to cope with difficulties in its operation.

THE REGATTA OF THE INTERNATIONAL YACHT ASSOCIATION ON LAKE WINNEBAGO. This greatest yachting event of the Northwest is watched by thousands and the winning boats and those who sail them become famous. An adequate story of the event by our correspondent.

THE CHIPPEWA BAY MOTOR BOAT RACES—By ALEXANDER J. LINDSAY. The long looked-for American Power Boat Association races. The competing boats. An important event in waters where the motor boat holds full sway.

THE LAKE GEORGE MOTOR BOAT REGATTA—By G. WARING STEBBINS. The annual races of the Lake George Motor Boat Association. This picturesque regatta is fully chronicled and pictured by the owner of one of the winning boats.

Other features of general interest, with plans of power and sail craft complete the October number, making it one of compelling interest.

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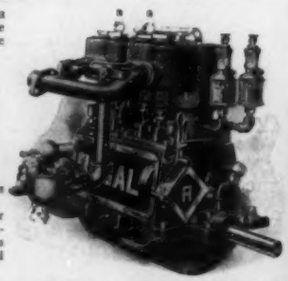

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ROYAL HAMILTON YACHT CLUB RACE FOR DINGHEYS.

10-FOOT CLASS—START, 3.20.

	Time. h.	m.	s.
Bruce Harvey	4	37	00
J. D. Macleod	4	37	20
Geo. C. Matheson	4	39	00
M. Thomson	4	44	00

QUEEN CITY YACHT CLUB, TORONTO.

	Time. h.	m.	s.
Marjorie	1	16	20
Osprey	1	11	04
Razorback	1	08	00

Silverheels and Odessa did not finish.

In the special class race Shearwater finished at 4.55 and Elaine at 4.56.

BOSTON YACHT CLUB, CRUISE TO PORTLAND, ME.

FIRST CLASS.

	Corrected Time. h.	m.	s.
Elaine	2	58	00
Sunshine	2	58	45
Hydriad	2	59	10
Golden Rod	3	00	00
Shiyessa	3	01	45
Gorilla	3	01	49
Delna	3	02	05
Early Dawn	3	03	00
Magnolia	3	03	10
Prima Donna	3	03	12
Wasaka	3	04	05
Papoose III	3	06	00

SECOND CLASS.

Rembla	3	18	00
Chief	3	18	55
Cbristine	3	19	30
Nutmeg	3	20	00
Marie L	3	21	00
L'Aiglon	3	25	05
Clorinda	3	26	10
Marie	3	28	05
Myrtle	3	29	00
Idella	3	29	10
Jula	3	31	00
Otomann	Not Time		

THIRD CLASS—START, 9.10.

Polyp	3	40	00
Gobbo	3	40	30
Burgomaster	3	41	00
Noturus	3	41	10
Kit	3	42	00
Juanona	3	42	25
Sanderling	3	42	28
Clitheroe	3	42	35
Gringo	3	43	00
Clique	3	43	30
Mildred II	3	43	45
Katherine	3	43	48
Tunipoo	4	44	10

WESTERN YACHTING.
DULUTH YACHT CLUB REGATTA.

	Time. h.	m.	s.
Feather	5	10	30
North Wind	5	11	20
College Widow	5	12	35
Agwindie	5	15	29
Banshee	5	15	30
Voyageur	5	15	15
Peter Pan	5	16	20
Scud	5	17	10
Viking	5	17	15
Yacqui	5	20	05

MILWAUKEE YACHT CLUB, LAKE MICHIGAN YACHT RACING ASSOCIATION REGATTA.

SLOOPS—25-FOOT CLASS.

	Corrected Time. h.	m.	s.
Pilot	4	02	36 1-2
Sioux	4	30	46
Mildred	4	31	18 4-5
Bessie C	4	32	19 2-5
Wenonah	4	35	26 3-5
Cyma	4	43	49

21-FOOT RACEABOUT CLASS.

Vagabond	4	18	19
Cock Robin	4	23	02
Viking	4	26	07 3-5

SPECIAL CLASS.

Kinnickinnic	4	26	05
Badger	4	36	56 3-5

YAWLS—35-FOOT.

Naiad	4	28	11 4-5
Tannis	4	32	50 2-5
Ranger	4	35	30 2-5
Rambler	4	52	13 4-5
Windward	4	58	16 1-5
Reamer	5	10	10 3-5

SLOOPS—35-FOOT.

Illinois	3	42	27
Josephine	4	06	28 4-5

SAN DIEGO YACHT CLUB.

In the Swallow Race, Meteor was the winner, covering the course in 59 minutes and 3 seconds. The time of the other two entries: Satanic, 1.01.17; Phantom, 1.01.59.

In the Sloop Class—Junior won in 59.55, the other yachts Sylph, Grampus and Lehman finishing in the order named.

Saville won the yawl race, her time being 1.05.11. The others in this class finished as follows: Jerry, Ironda and Iola.

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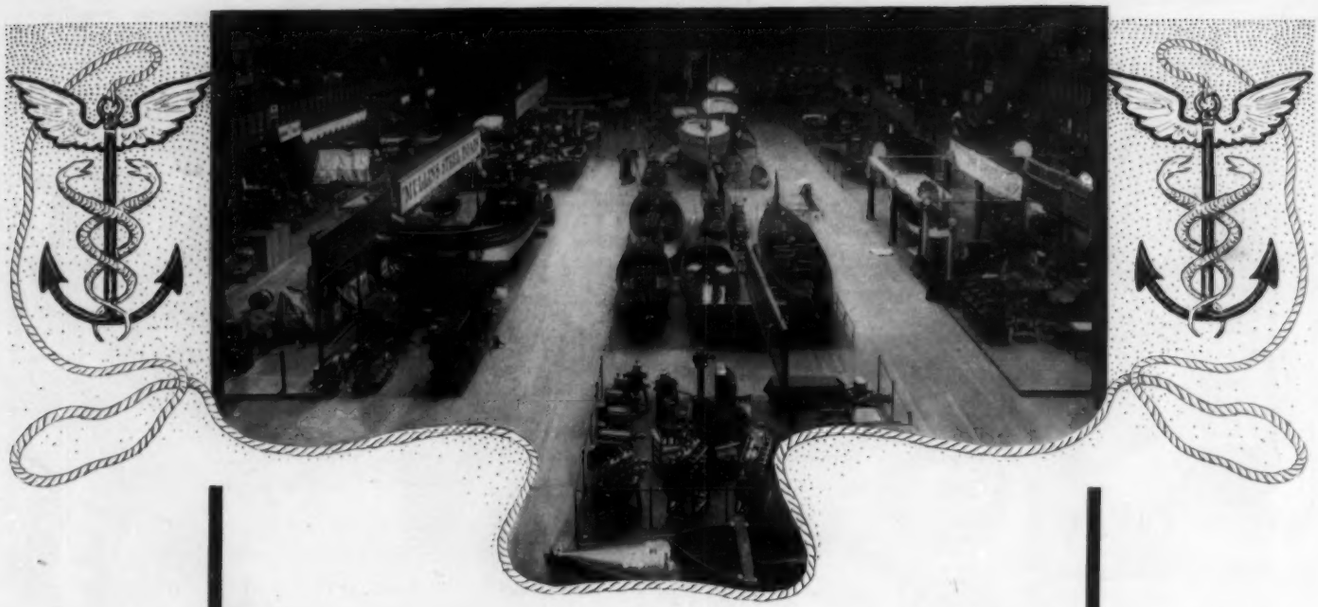

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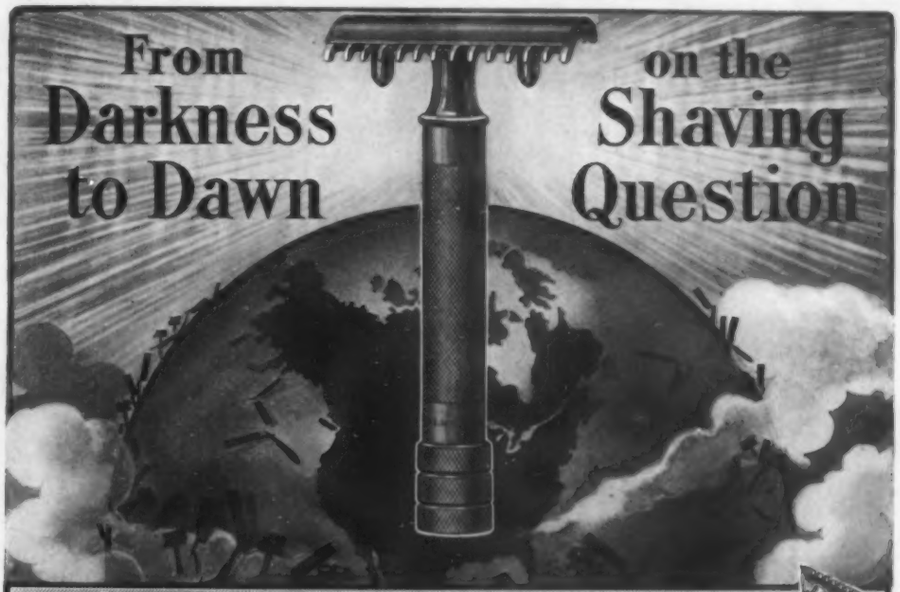

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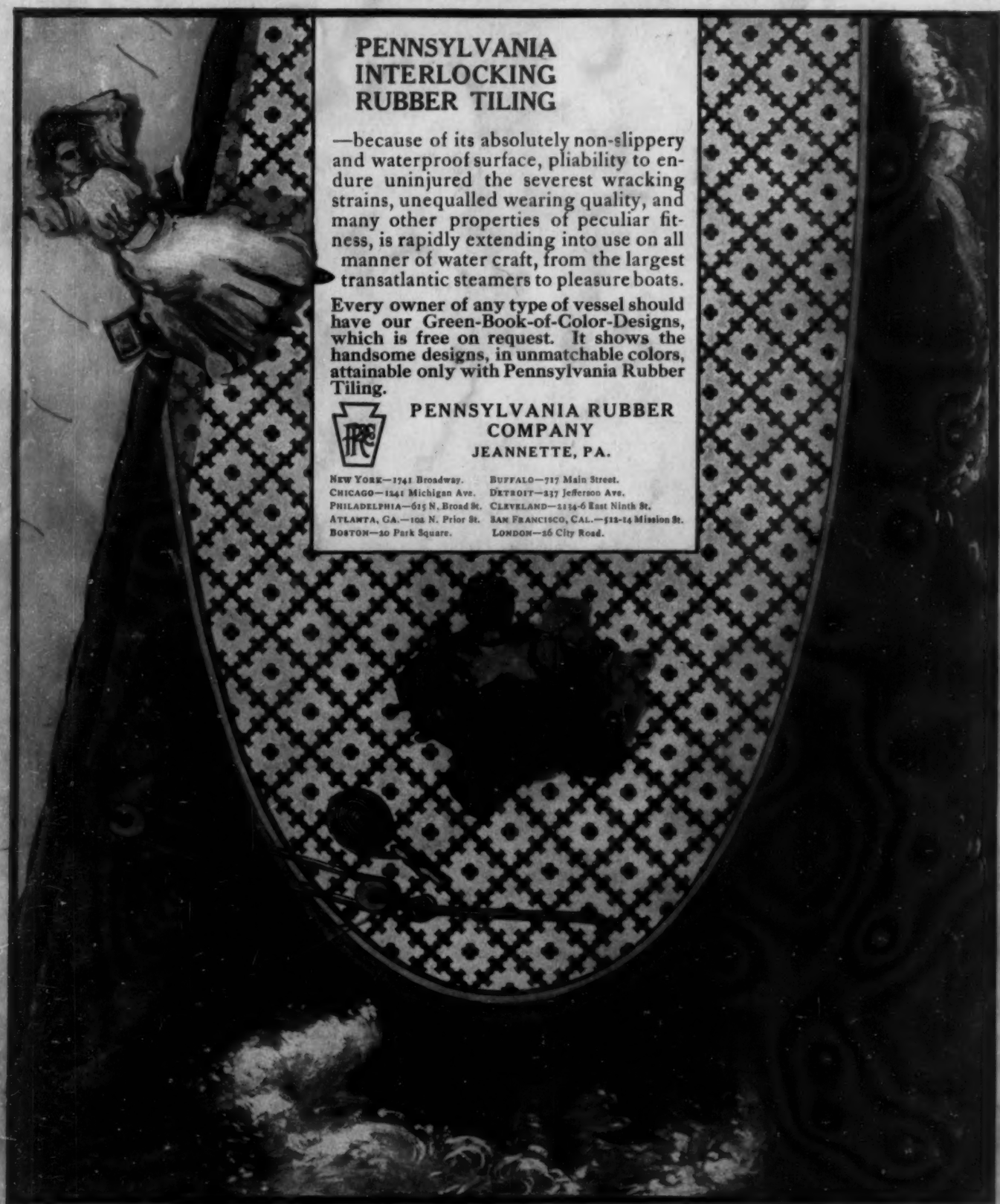

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